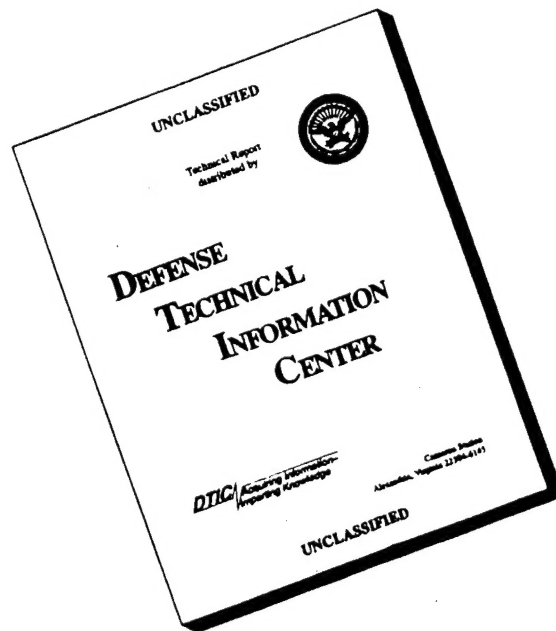
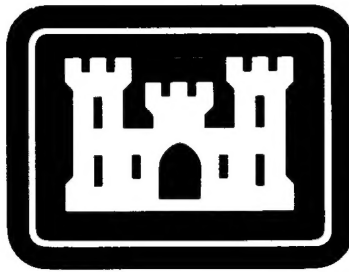


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11. SUPPLEMENTARY NOTES			By _____ Distribution / _____					
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13. ABSTRACT (Maximum 200 words) <p>This comprehensive, two-volume synthesis, the first in 50 years, is aimed at a multidisciplinary audience concerned with multiple aspects of water resources engineering and natural and cultural resources management. It presents at a scale of 1:250,000 the distribution of environments of deposition as compiled from more than 30 years of detailed geologic mapping, as well as a new interpretation and delineation of the eroded suballuvial surface. A detailed interpretation of the evolution of the alluvial valley and deltaic plain is presented and illustrated by a series of 13 paleogeographic reconstructions. The chronology of valley events is based on stratigraphic relationships and radiometric age determinations but relies heavily on archeological evidence.</p> <p>The geologic processes and controls that affect the entire region include continental glaciations, climate, sea level variations, tectonics and diapirism, and subsidence. Both erosional and depositional landscapes are represented, and the lithology, soils, and geotechnical properties of the latter are presented in narrative and tabular form for the principal fluvial, lacustrine, eolian, deltaic, and deltaic-marine environments. Discussions of neotectonics in the region focus on the New Madrid Seismic Zone, and a section of the synthesis addresses special engineering considerations such as groundwater occurrence, mass movements, river meandering, and long-term stability.</p>								
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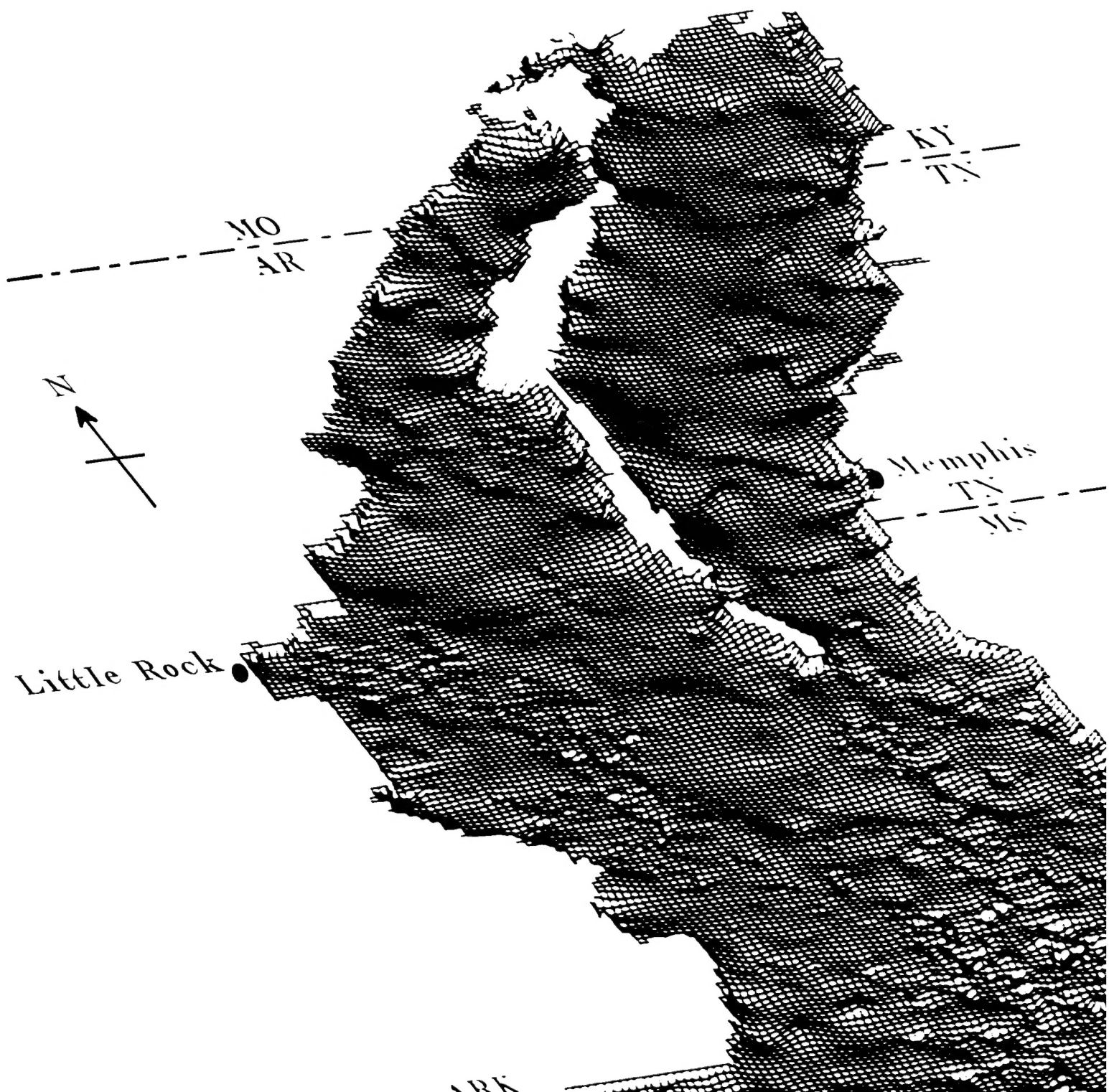
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**GEOMORPHOL
AND QUATERN
GEOLOGIC HIS
OF THE LOWER
MISSISSIPPI
VALLEY**

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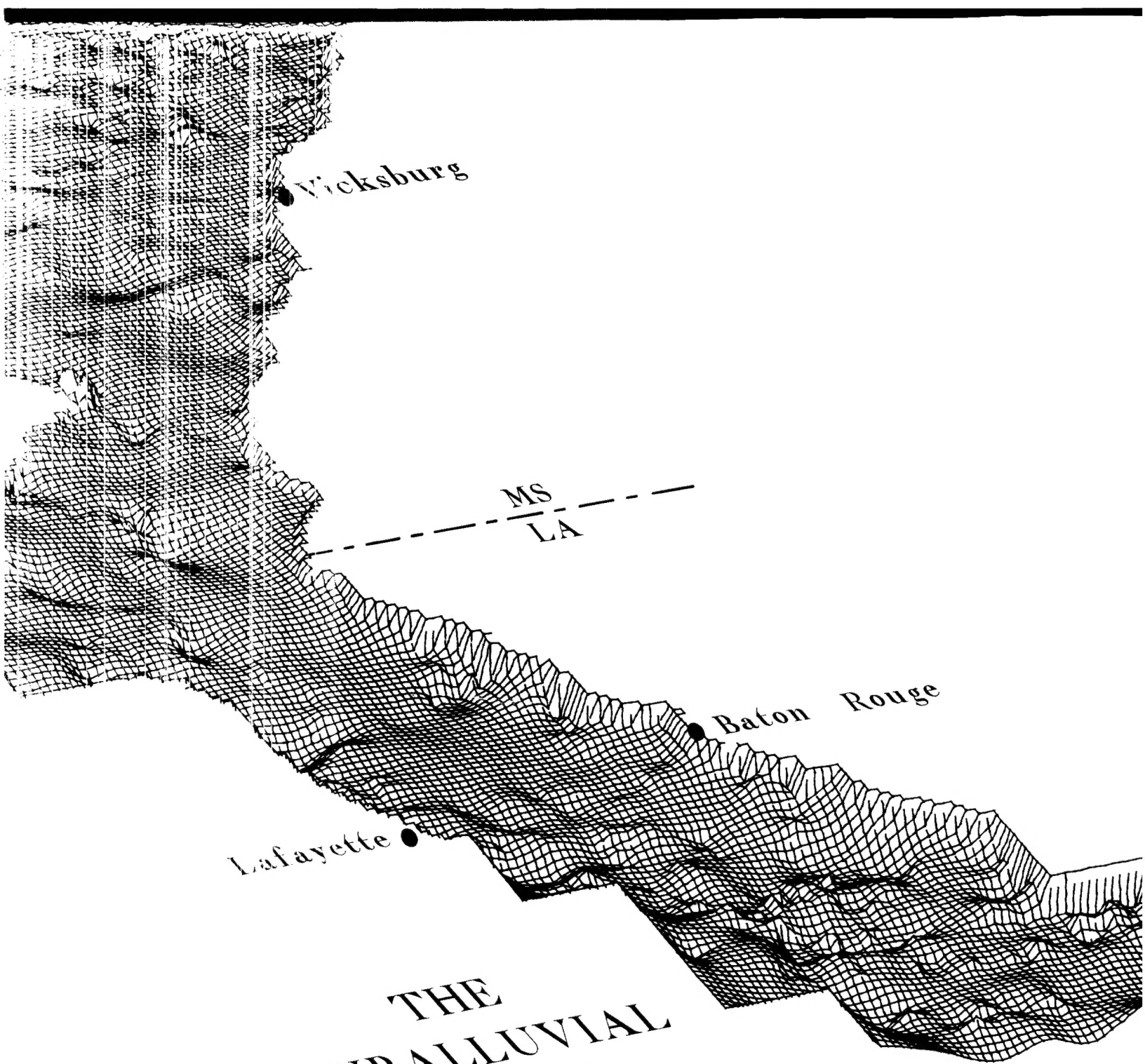
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Mississippi River Com
Vicksburg, Mississippi

~~ARK~~
~~LA~~

Monroe

Commission ippi



THE SUBALLUVIAL SURFACE

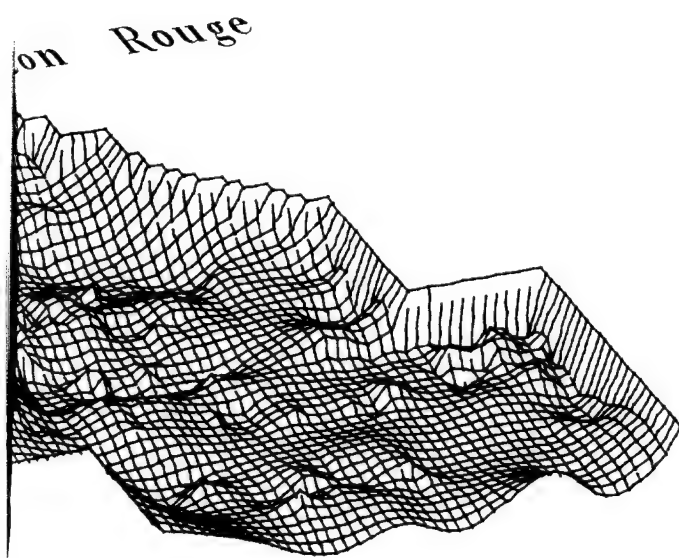
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Roger T. Saul

U.S. Army Engineer
Waterways Experiment
Station

Vicksburg, Mississippi

December 1964

Volume II

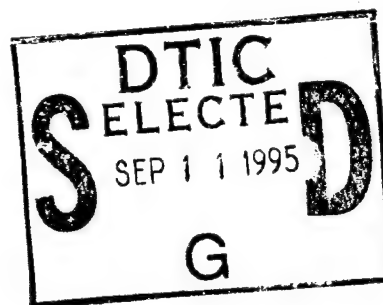


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- 1 Physiographic Features.
- 2 Outcrops and Subcrops of Major Upland Formations.
- 3 Index to Plates and Quads.
- 4 Quaternary Deposits, Paducah-Rolla Sheet.
- 5 Quaternary Deposits, Dyersburg-Poplar Bluff Sheet.
- 6 Quaternary Deposits, Blytheville-Memphis Sheet.
- 7 Quaternary Deposits, Helena-Little Rock Sheet.
- 8 Quaternary Deposits, Greenwood-El Dorado Sheet.

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- 20 Configuration of Suballuvial Surface, Helena-l
- 21 Configuration of Suballuvial Surface, Greenwo
- 22 Configuration of Suballuvial Surface Jackson

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ce, Dyersburg-Poplar Bluff Sheet.

ce, Blytheville-Memphis Sheet.

ce, Helena-Little Rock Sheet.

ce, Greenwood-El Dorado Sheet.

ce, Jackson-Shreveport Sheet.

- 7 Quaternary Deposits, Helena-Little Rock Sheet.
- 8 Quaternary Deposits, Greenwood-El Dorado Sheet.
- 9 Quaternary Deposits, Jackson-Shreveport Sheet.
- 10 Quaternary Deposits, Alexandria-Natchez Sheet.
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ce, Lake Charles-Baton Rouge Sheet.

ce, Baton Rouge-Mobile Sheet.

ce, Port Arthur-New Orleans Sheet.

ce, New Orleans-Breton Sound Sheet.

or Key Periods.

92°



OZARK

MISSOURI
—
ARKANSAS

PLATEAU

36°



90°

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ILL

Cairo

MISSOURI
ARKANSAS

ESCARPMENT

OZARK

CROWLEYS
RIDGE

PLAIN

BASIN

Jonesboro

MALDEN

FRANCIS
River

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LOWLANDS

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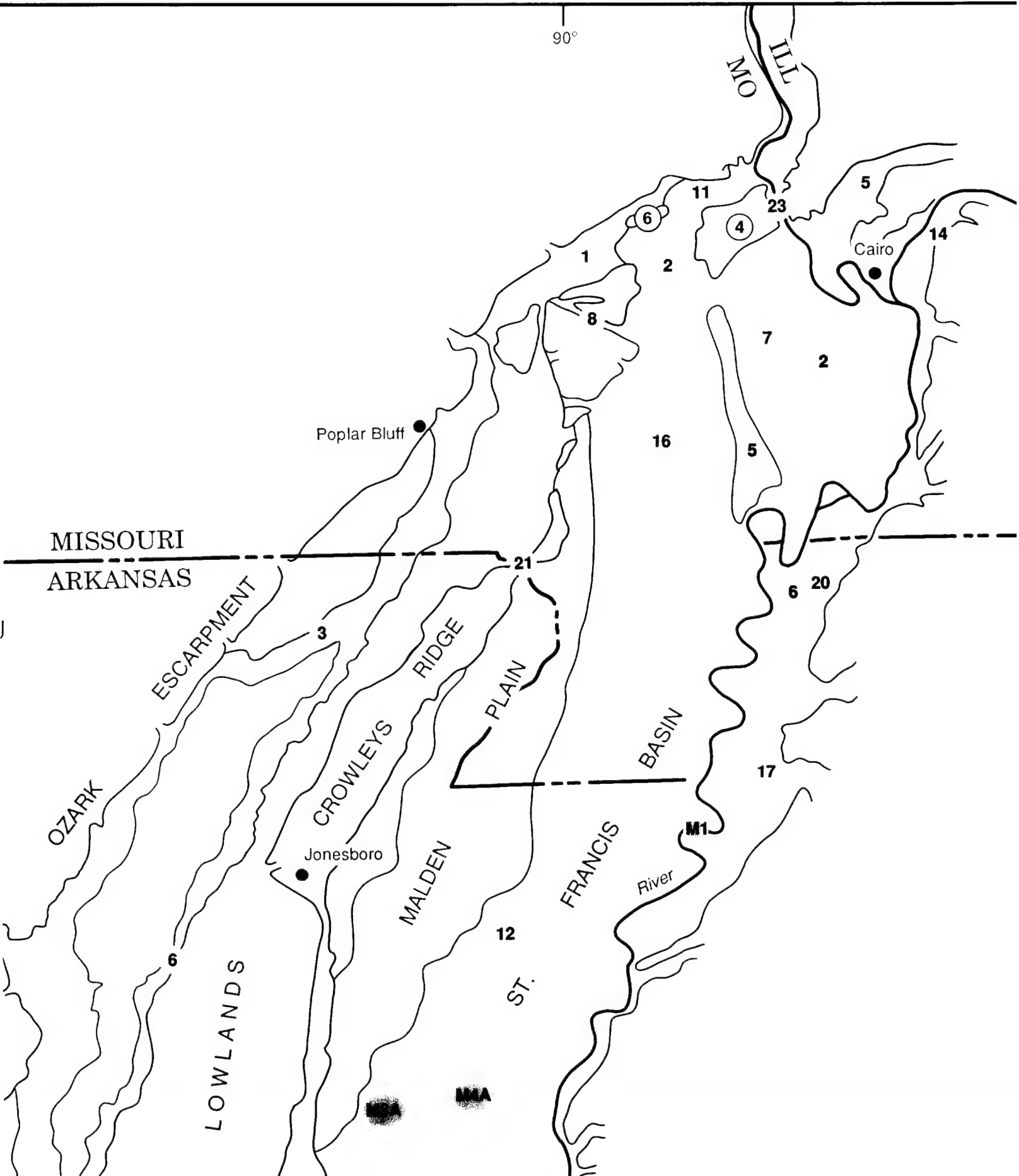
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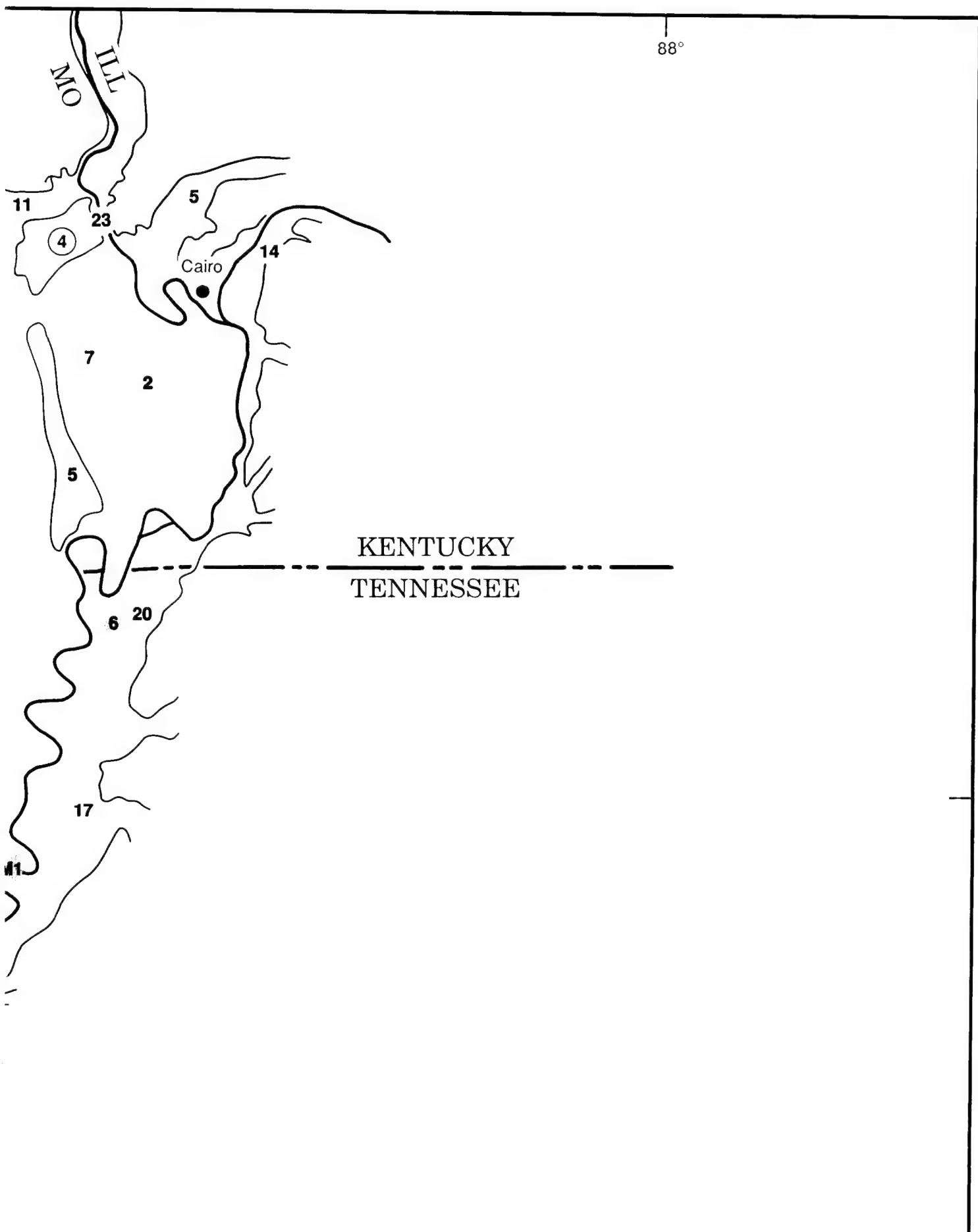
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ARKANSAS
LOUISIANA

Little Rock

Pine Bluff

Arkansas
River

GRAND

PRAIRIE

24

ARKANSAS
LOWLAND

BASIN

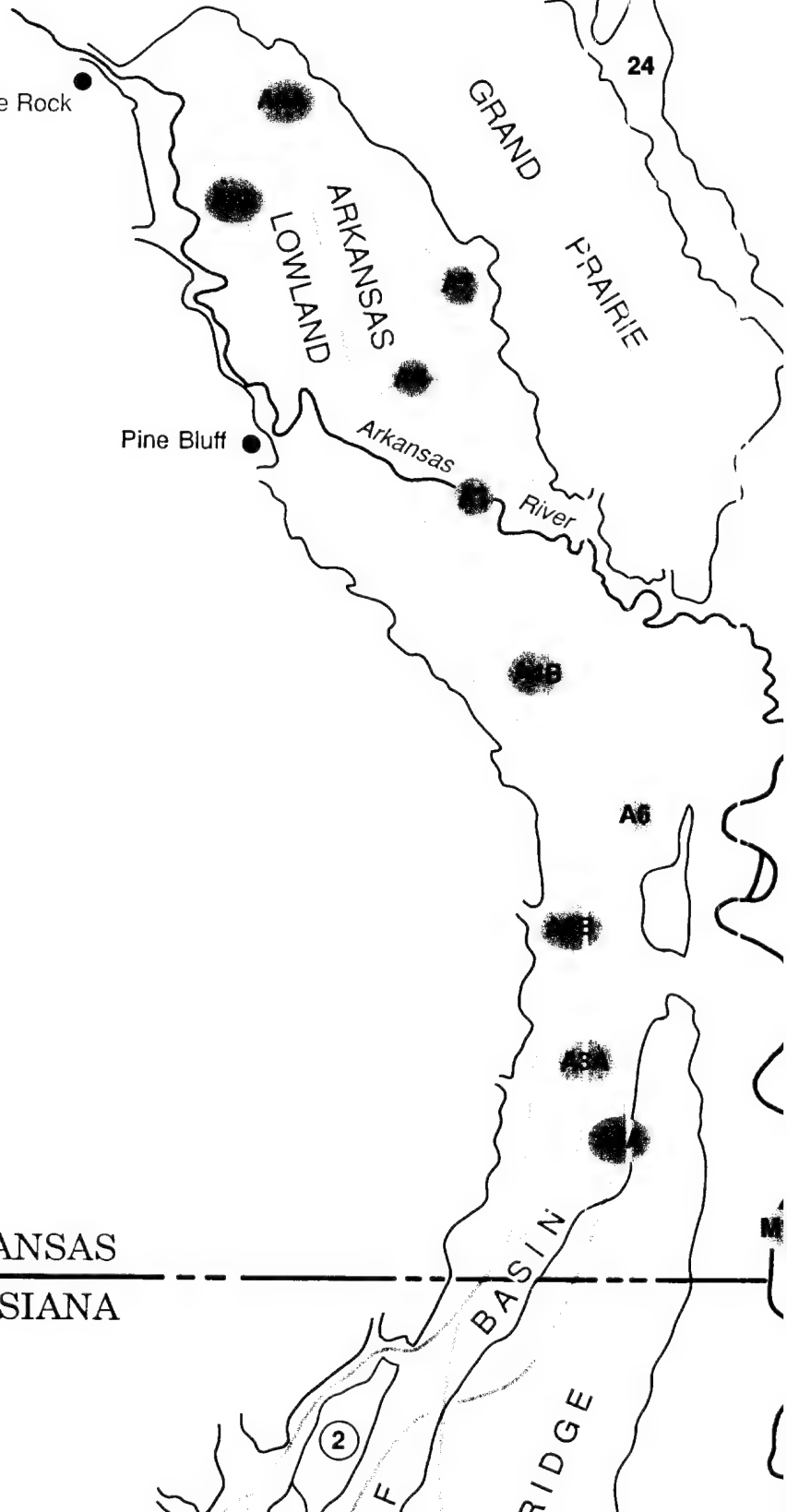
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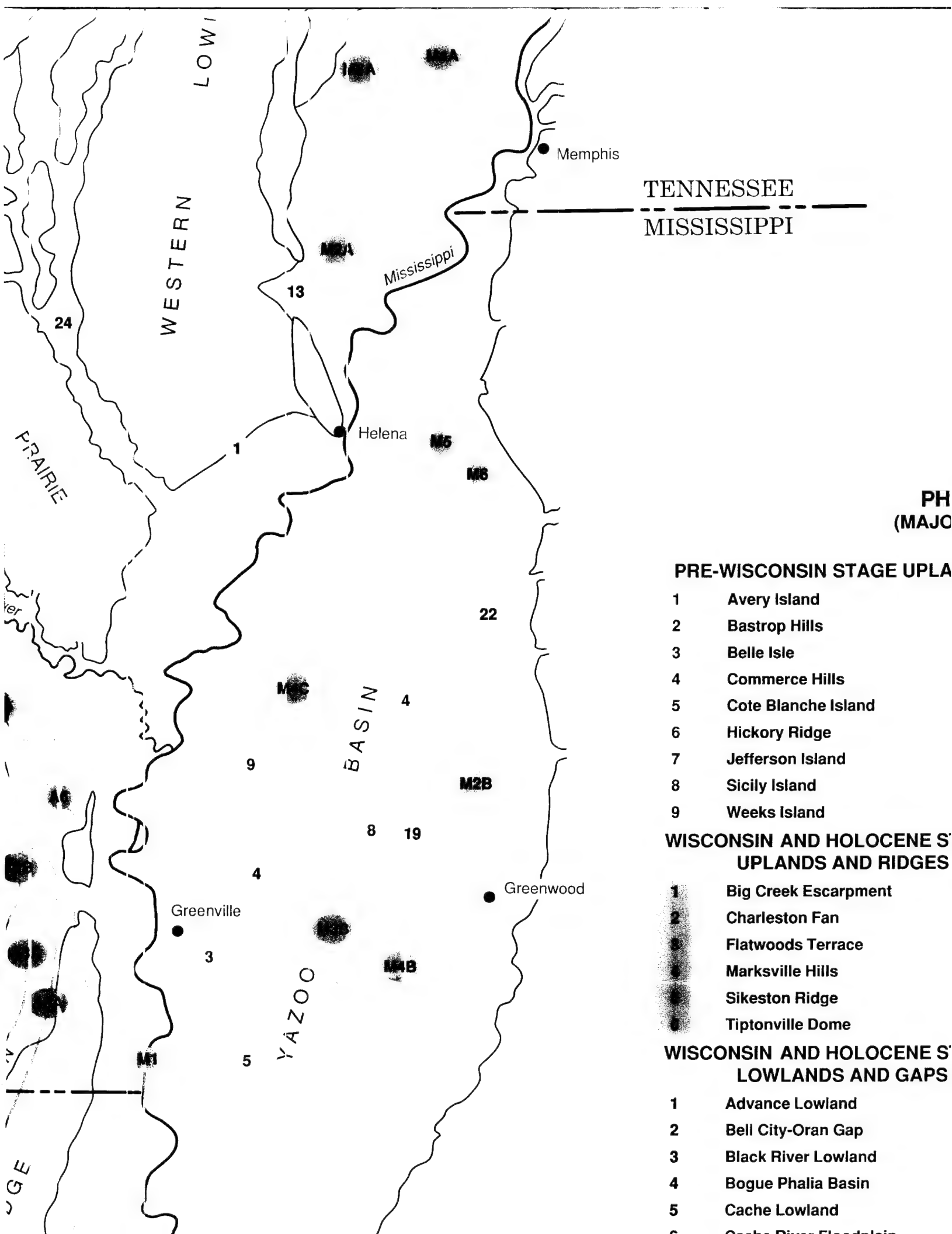
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ENNESSEE MISSISSIPPI

PHYSIOGRAPHIC FEATURES (MAJOR FEATURES LABELED ON MAP)

PRE-WISCONSIN STAGE UPLANDS

- 1 Avery Island
- 2 Bastrop Hills
- 3 Belle Isle
- 4 Commerce Hills
- 5 Cote Blanche Island
- 6 Hickory Ridge
- 7 Jefferson Island
- 8 Sicily Island
- 9 Weeks Island

WISCONSIN AND HOLOCENE STAGE UPLANDS AND RIDGES

- 1 Big Creek Escarpment
- 2 Charleston Fan
- 3 Flatwoods Terrace
- 4 Marksville Hills
- 5 Sikeston Ridge
- 6 Tiptonville Dome

WISCONSIN AND HOLOCENE STAGE LOWLANDS AND GAPS

- 1 Advance Lowland
- 2 Bell City-Oran Gap
- 3 Black River Lowland
- 4 Bogue Phalia Basin
- 5 Cache Lowland

HOLOCENE MEANDER BELTS

Mississippi River

- 1 Modern
- 2 Fifteen Mile Bayou
- 3 Yazoo
- 4 Walnut Bayou
- 5 St. Francis
- 6 Sunflower
- 7 Cocodrie
- 8 Teche
- 9 Big Creek
- 10 Bear Creek
- 11 Little Mound Bayou
- 12 Tensas
- 13 Bayou Portage
- 14 Coldwater
- 15 South Lake

Arkansas River

- 1 Modern
- 2 Plum Bayou
- 3 Bayou Bartholomew
- 4 Lighterwood Bayou
- 5 Bonne Idee
- 6 Bakers Bayou
- 7 Choctaw Bayou
- 8 Joe's Bayou

ARKANSAS
LOUISIANA

32°

RED RIVER
VALLEY

Alexandria

Natchez

Monroe

2

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MACON

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BASIN

RIDGE

TENSAS

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Red River

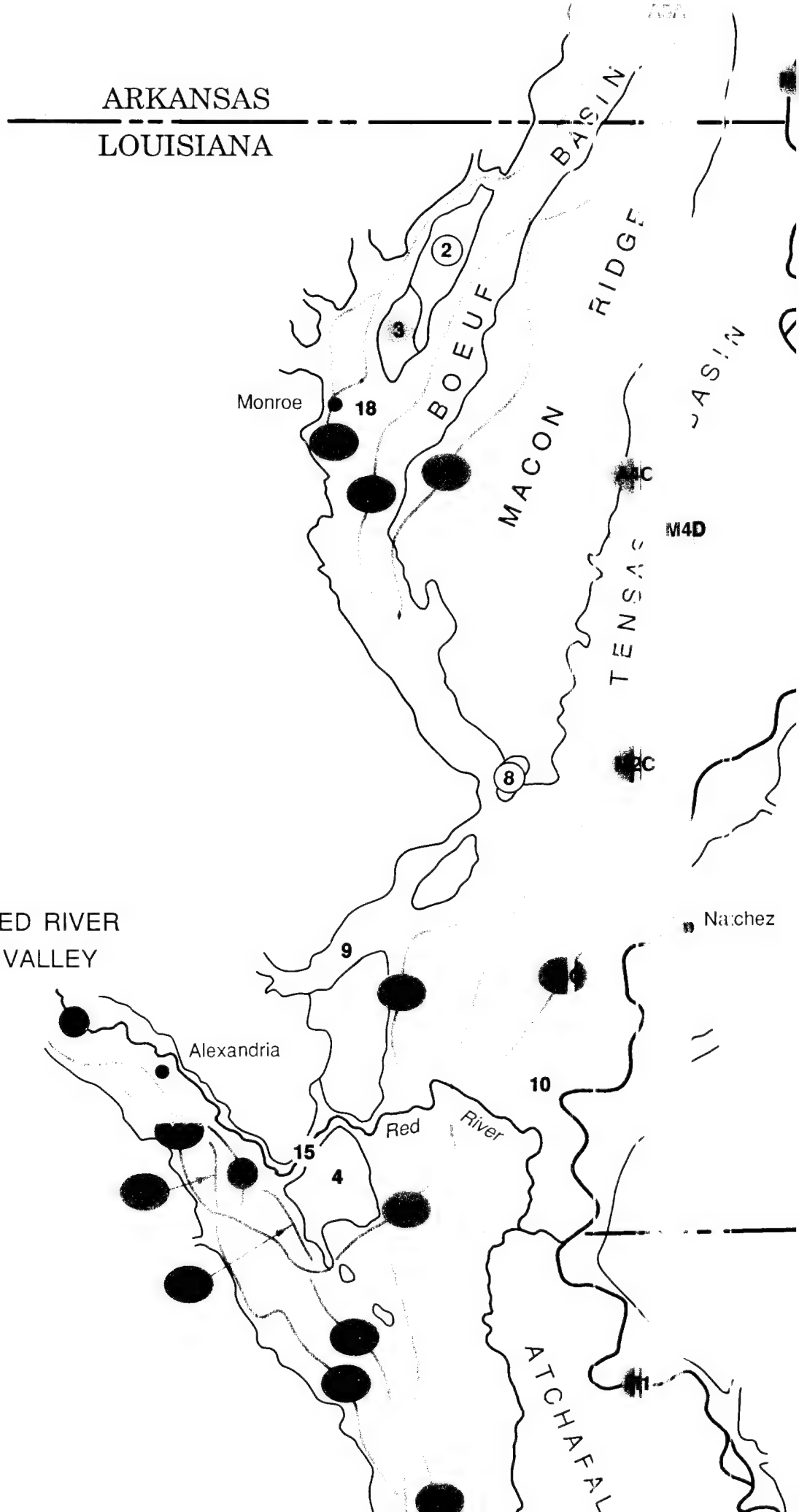
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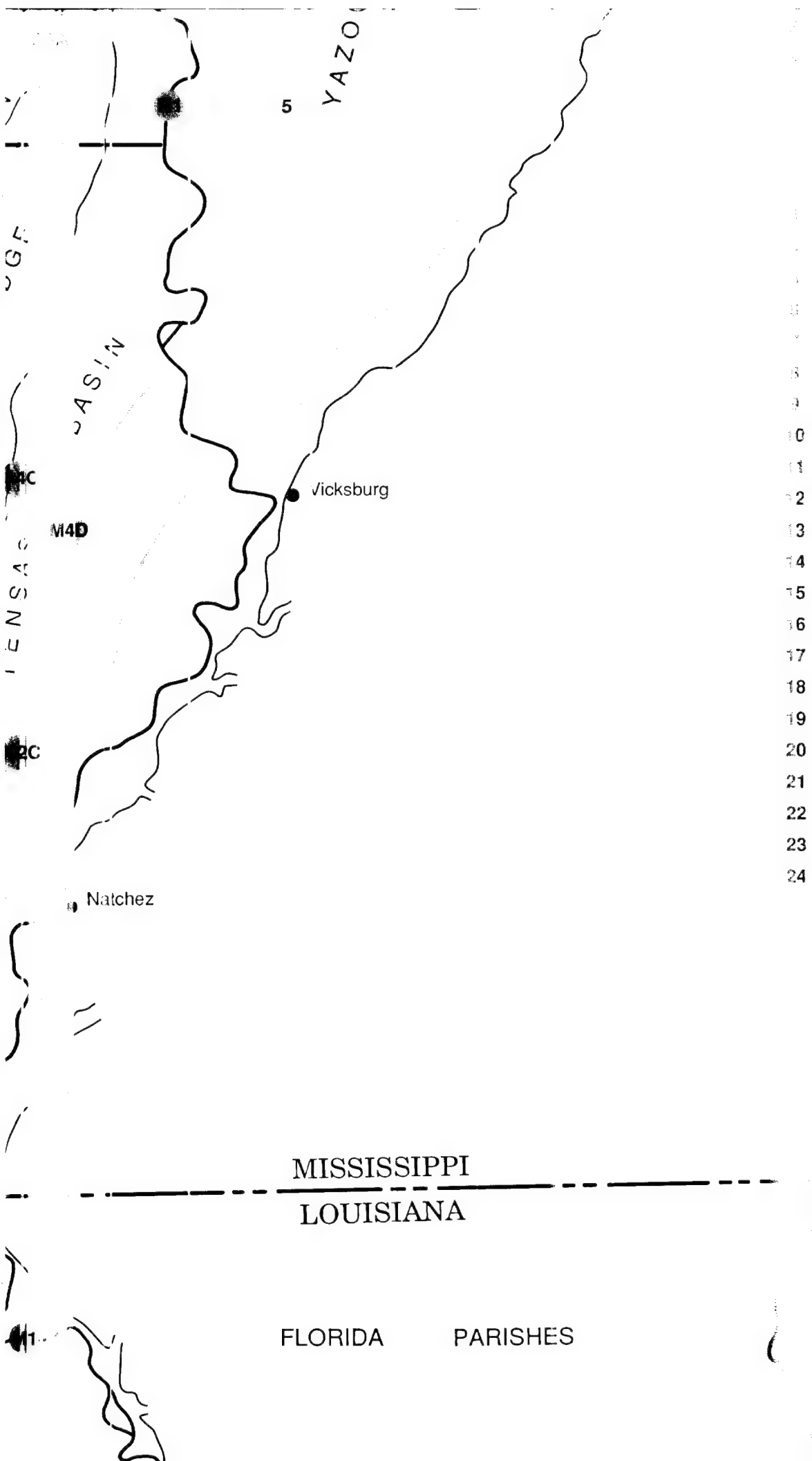
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- Stikston Ridge
- Tiptonville Dome
- SCONSIN AND HOLOCENE ST**
- LOWLANDS AND GAPS**
- Advance Lowland
- Bell City-Cran Gap
- Black River Lowland
- Bogue Phalia Basin
- Cache Lowland
- Cache River Floodplain
- Cairo Lowland
- Castor River Gap
- Catahoula Lake Basin
- Dismal Swamp Lowland
- Drum Lowland
- Little River Lowland
- Marianna Gap
- Metropolis Lowland
- Moncla Gap
- Morehouse Lowland
- Obion-Forked Deer Basin
- Cuachita River Lowland
- Guiver River Lowland
- Reelfoot Lake Basin
- St. Francis River Gap
- Tallahatchie Basin
- Thebes Gap
- White River Lowland

Sikeston Ridge

Tiptonville Dome

SCONSIN AND HOLOCENE STAGE LOWLANDS AND GAPS

Advance Lowland

Bell City-Oran Gap

Black River Lowland

Bogue Phalia Basin

Cache Lowland

Cache River Floodplain

Cairo Lowland

Castor River Gap

Catahoula Lake Basin

10 Dismal Swamp Lowland

11 Drum Lowland

12 Little River Lowland

13 Marianna Gap

14 Metropolis Lowland

15 Moncla Gap

16 Morehouse Lowland

17 Obion-Forked Deer Basin

18 Ouachita River Lowland

19 Quiver River Lowland

20 Reelfoot Lake Basin

21 St. Francis River Gap

22 Tallahatchie Basin

23 Thebes Gap

24 White River Lowland

South Lake

Arkansas River

A1 Modern

A2A Plum Bayou

A2B Bayou Bartholomew

A3A Lighterwood Bayou

A3B Bonne Idee

A4A Bakers Bayou

A4B Choctaw Bayou

A4C Joe's Bayou

A4D Cross Bayou

A5A Crooked Bayou

A5B Gourd Bayou

A6 Bayou Macon

A7 Bayou Meto

A8 Boggy Bayou

Red River

R1 Modern

R2A Bayou Boeuf

R2B Bayou des Glaises

R3A Chatlin Lake

R3B Bayou Cocodrie

R5 Indian Bayou

R6A Bayou du Lac

R6B Bayou Petite Prairie

MAJOR DISTRIBUTARIES

Bayou des Familles

Bayou la Loutre

Black Bayou

Blue Lake

Deer Creek

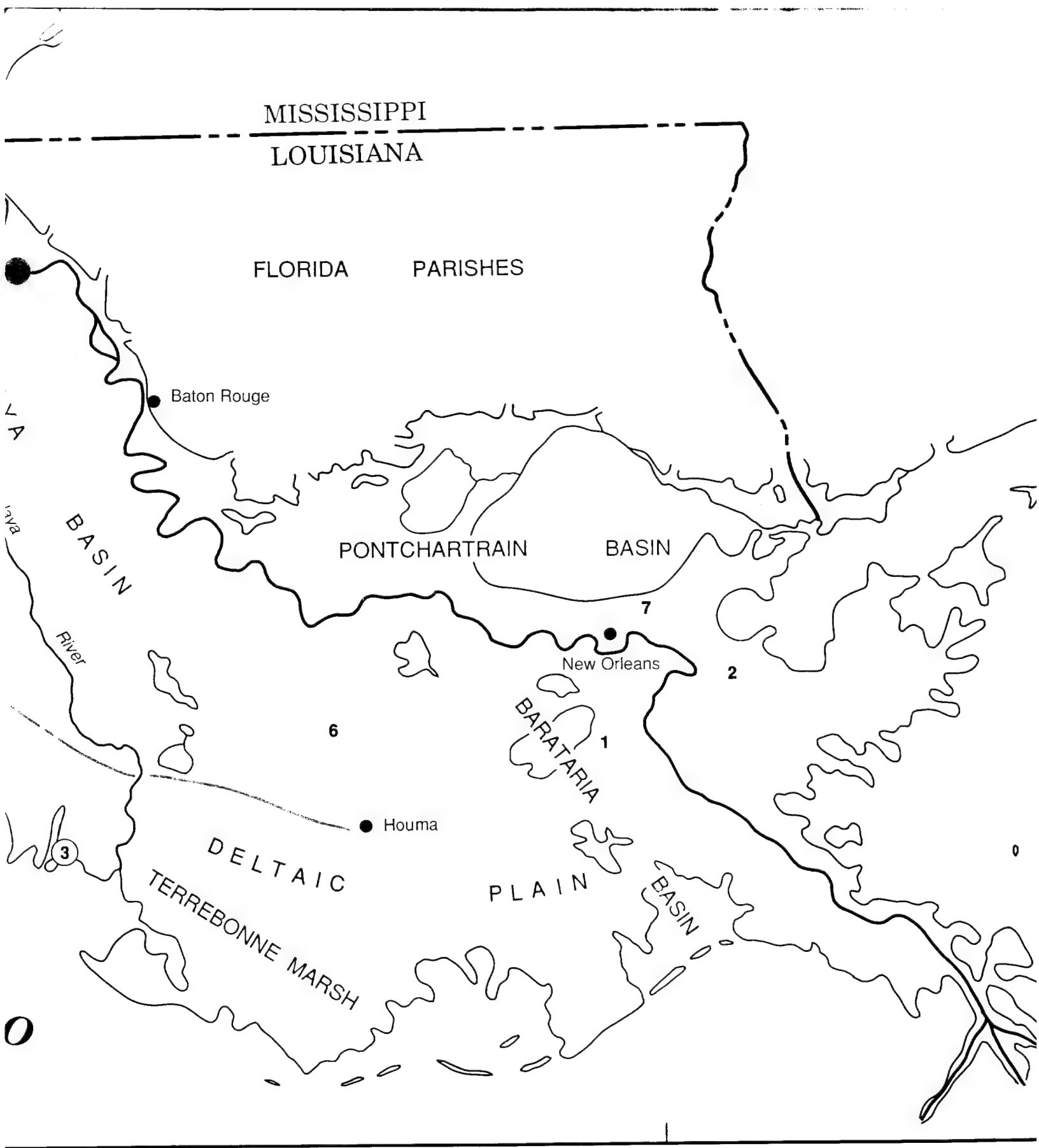
Bayou Lafourche

Metairie Bayou – Bayou Sauvage

Roundaway Bayou

Snake Creek







GEOMORPHOLOGY AND
QUATERNARY GEOLOGIC HISTORY
OF THE LOWER MISSISSIPPI VALLEY

PHYSIOGRAPHIC FEATURES

92°



NOTE: SUBCROPS OF FORMATIONS BENEATH
WISCONSIN STAGE AND HOLOCENE
DEPOSITS OF THE ALLUVIAL VALLEY
AND DELTAIC AND CHENIER PLAINS
SHOWN BY SCREENED EFFECT.

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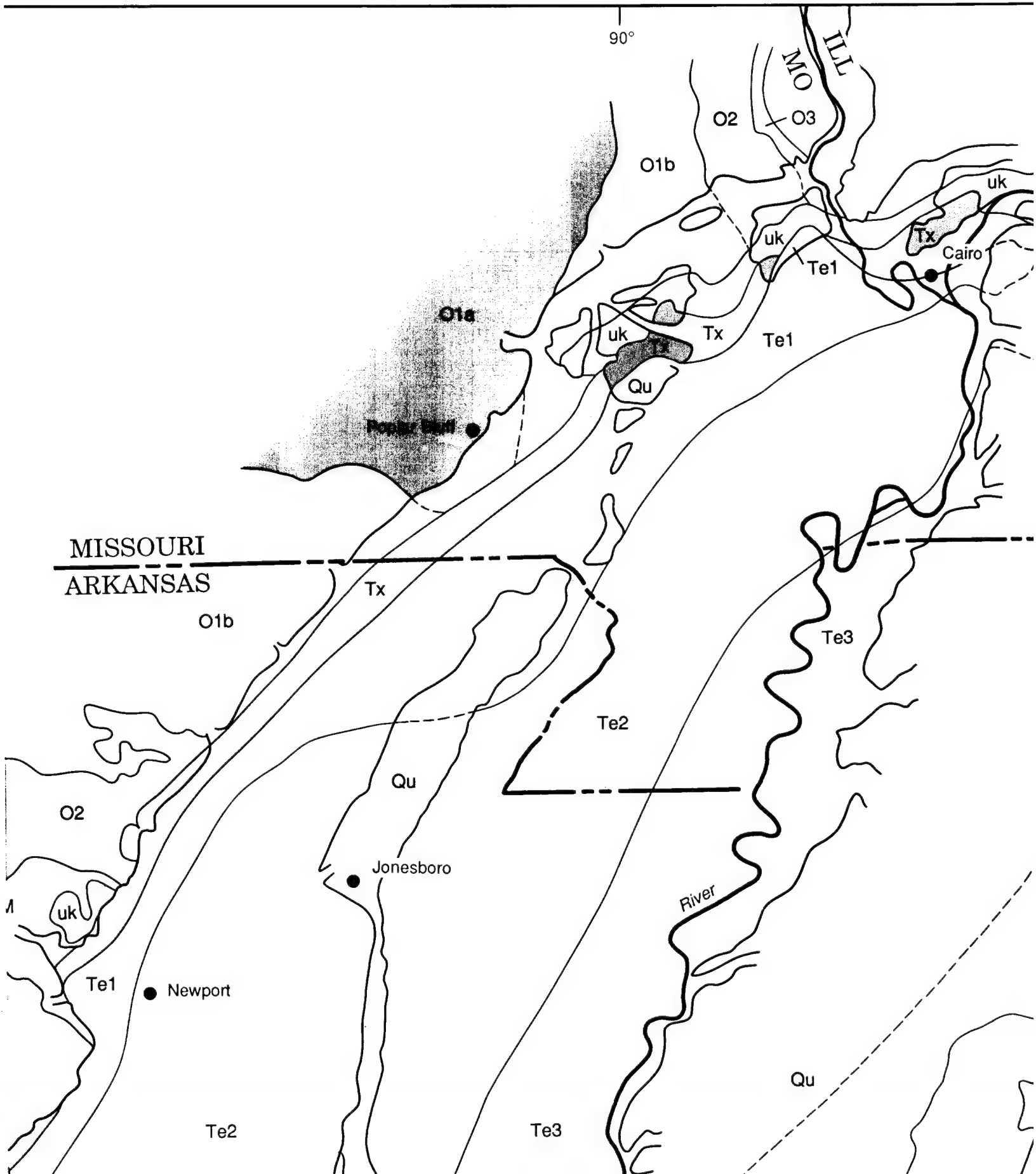
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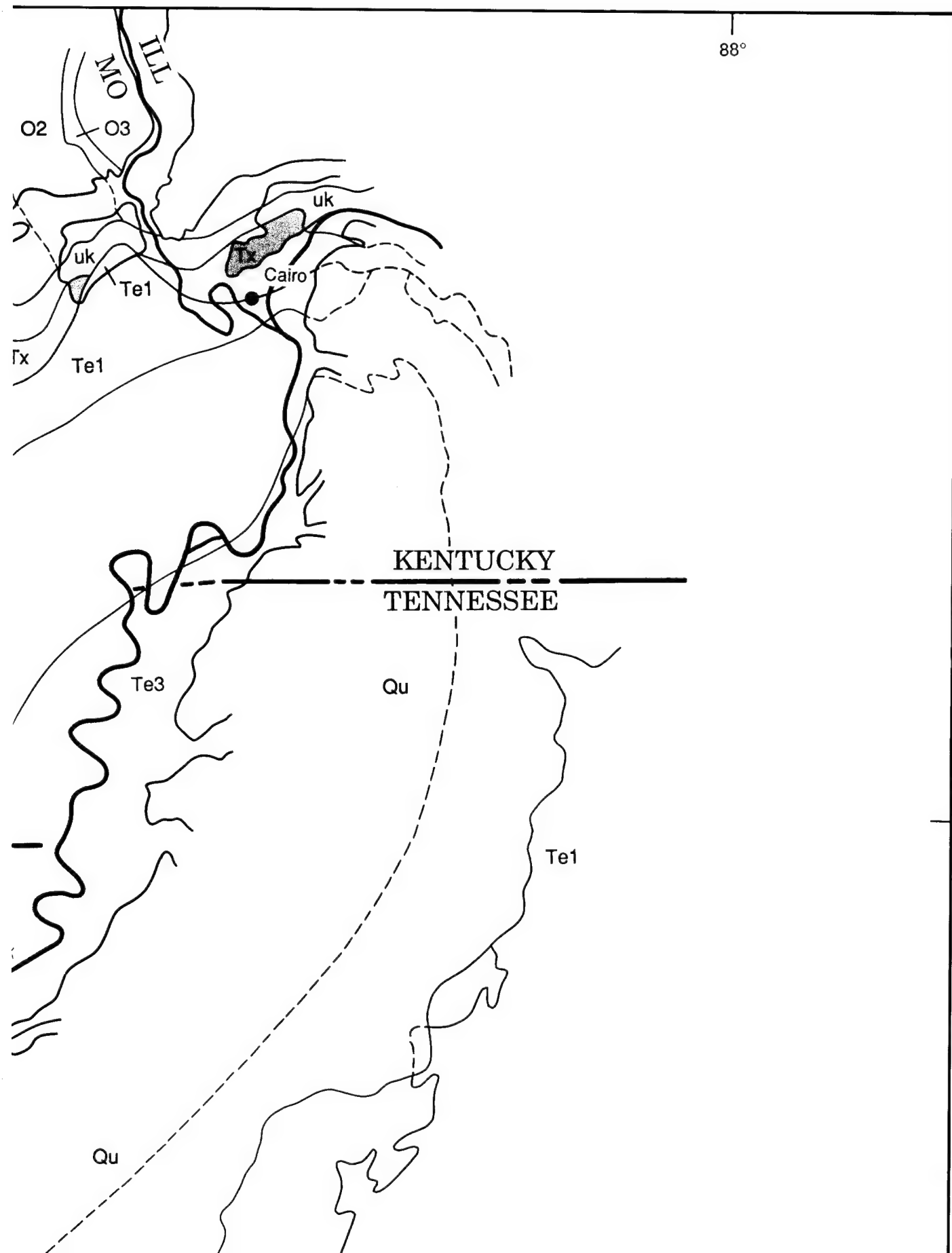
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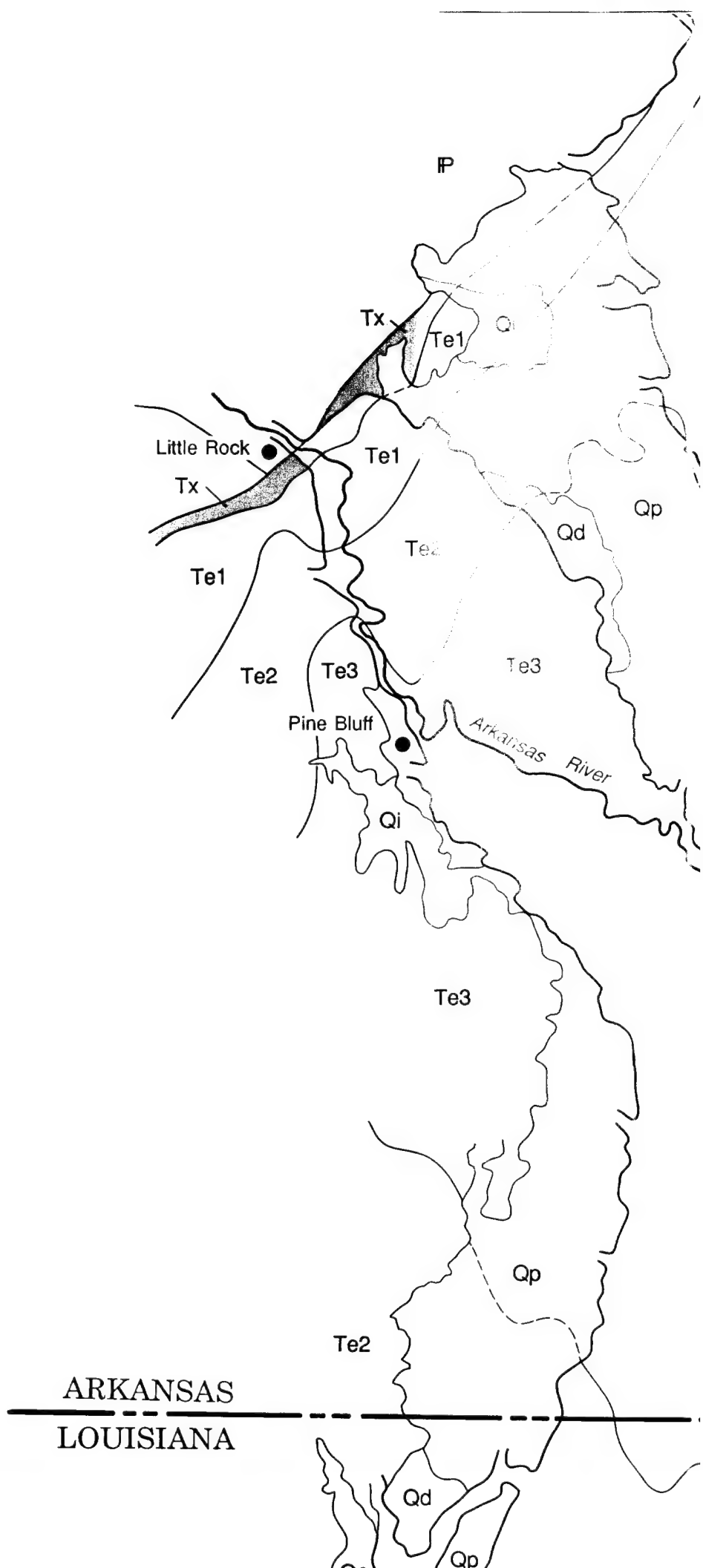
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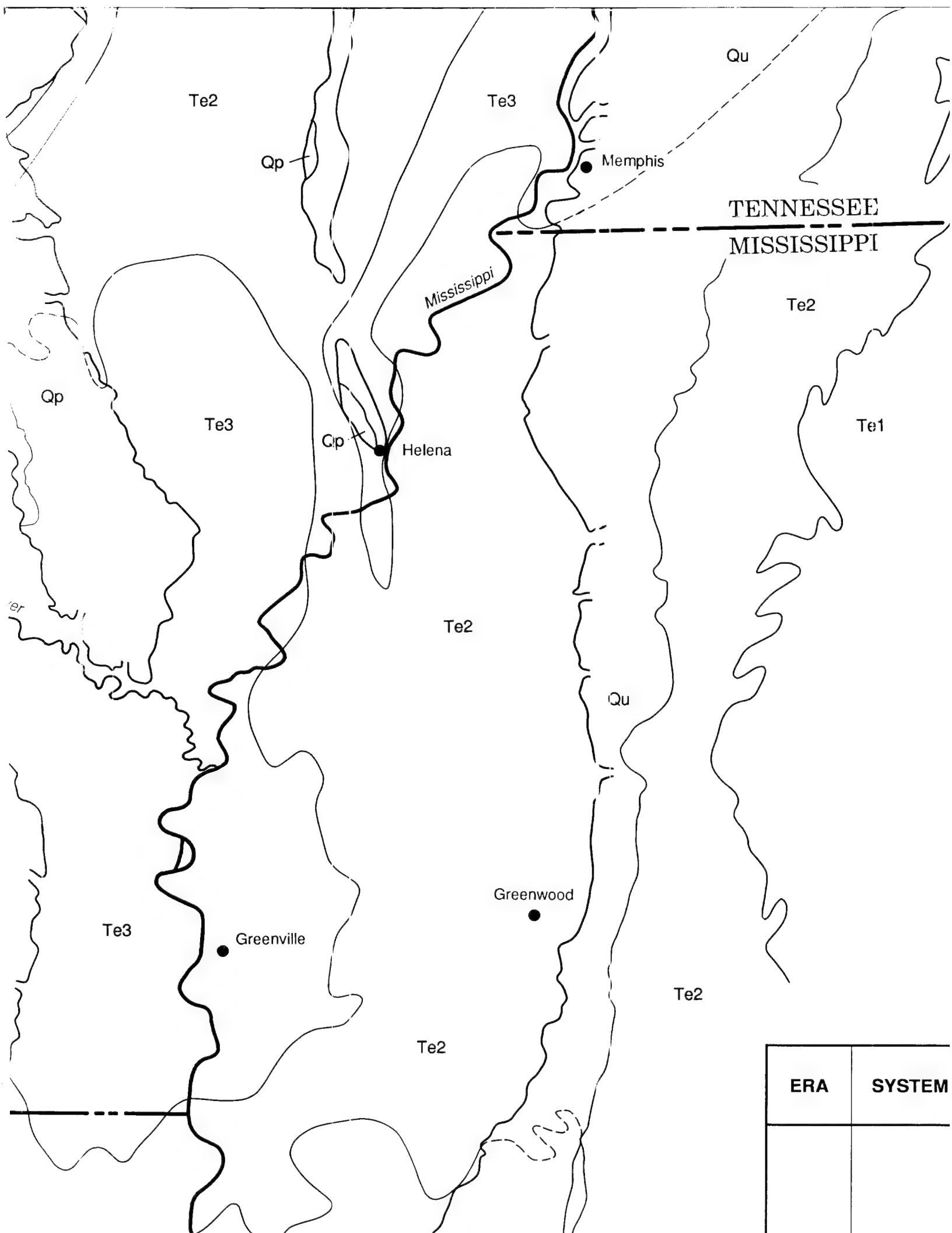
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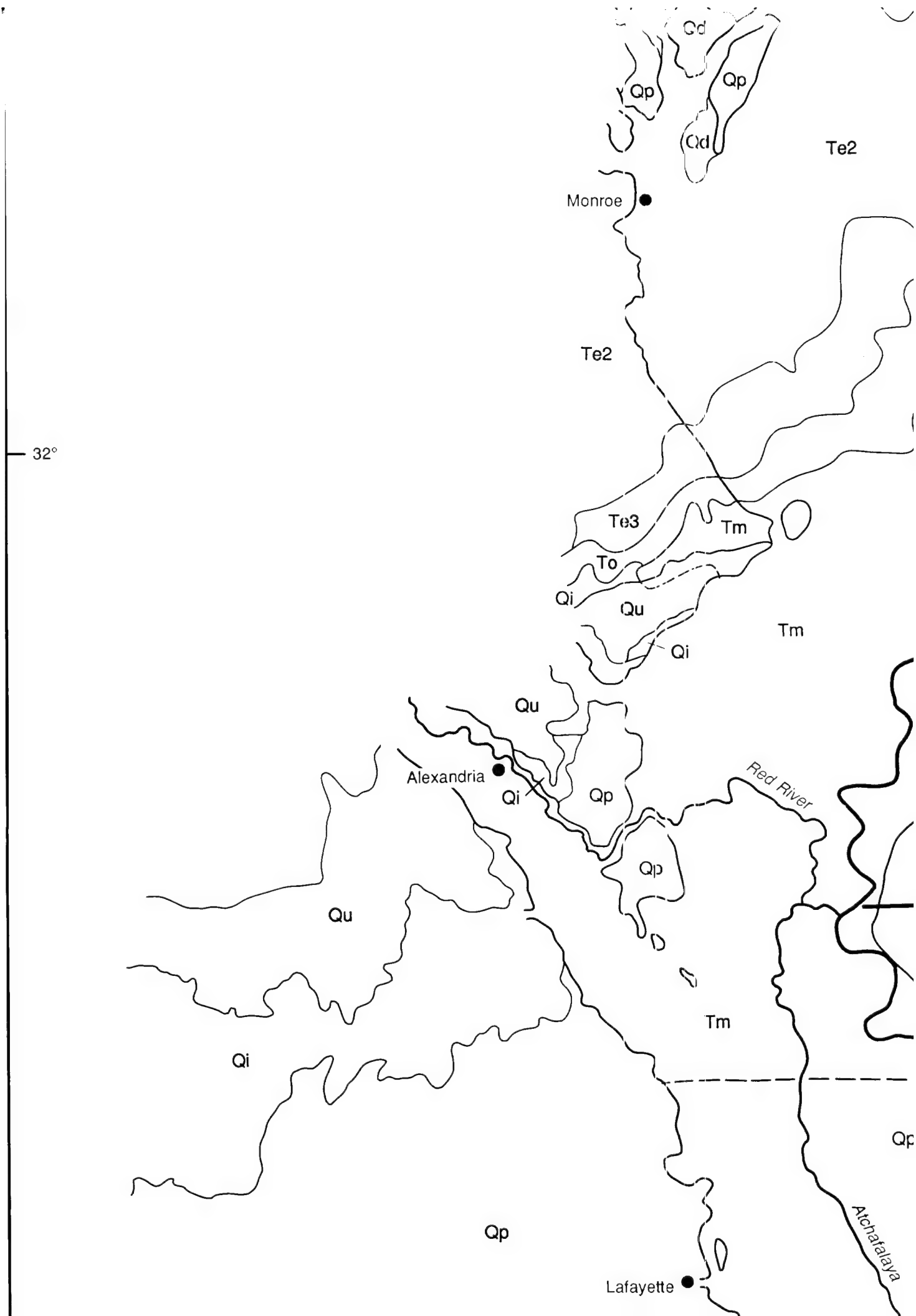


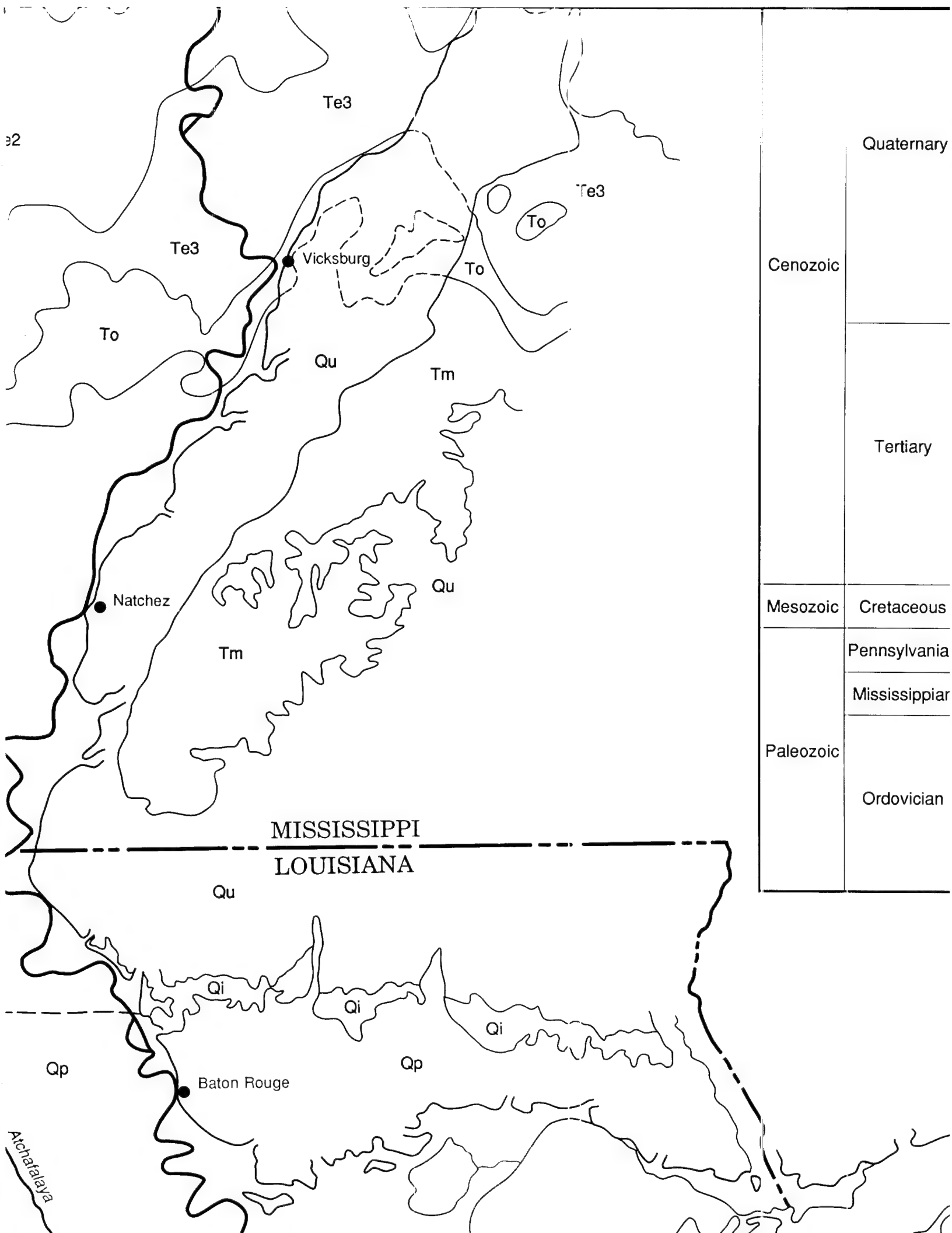
ERA	SYSTEM



Te2

ERA	SYSTEM	SERIES	GROUP	FORMATION OR UNIT	SYMBOL
		Holocene		Alluvium	
				Valley trains	





32

Te3

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Vicksburg

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MISSISSIPPI
LOUISIANA

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Baton Rouge

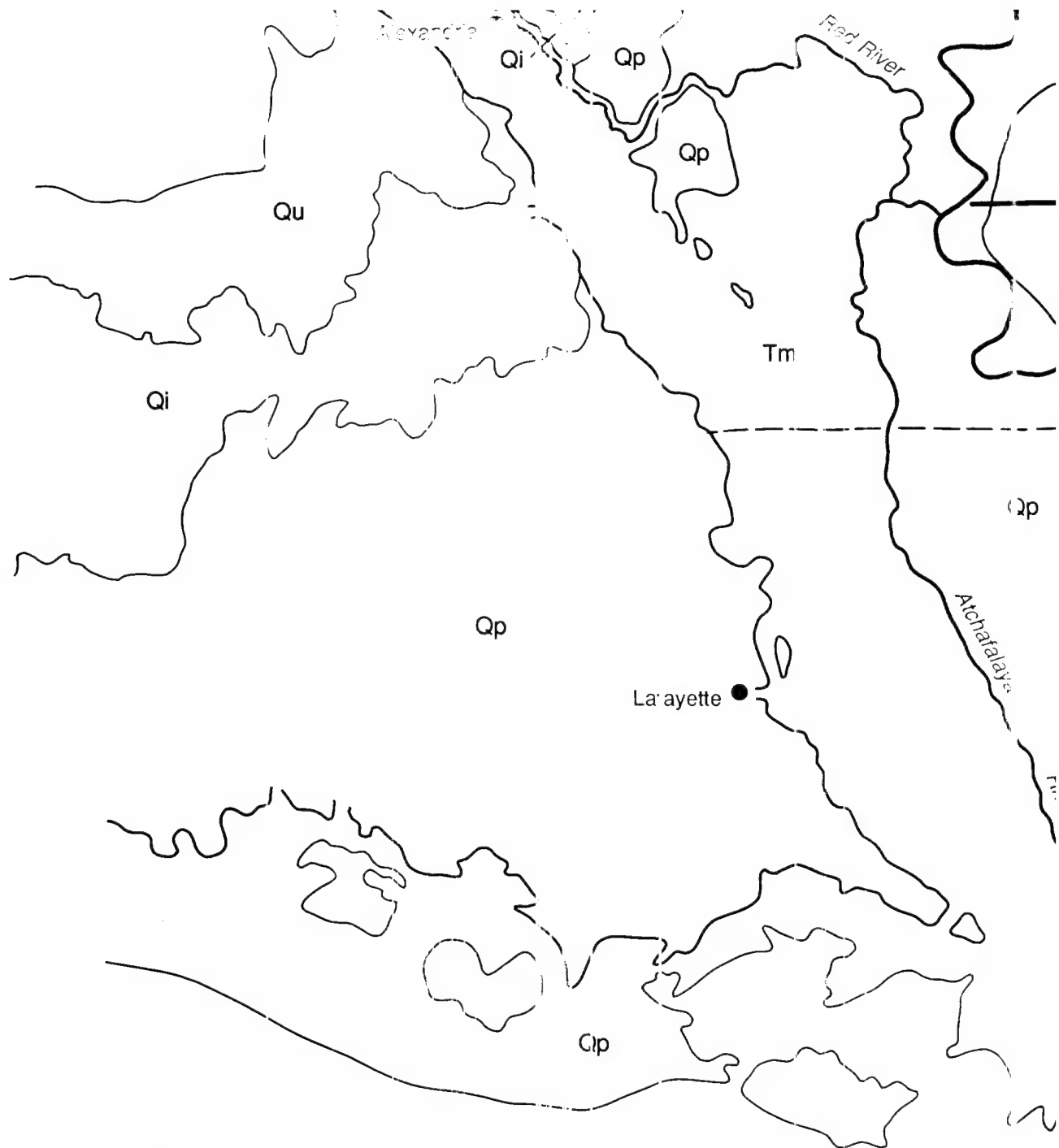
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Atchafalaya

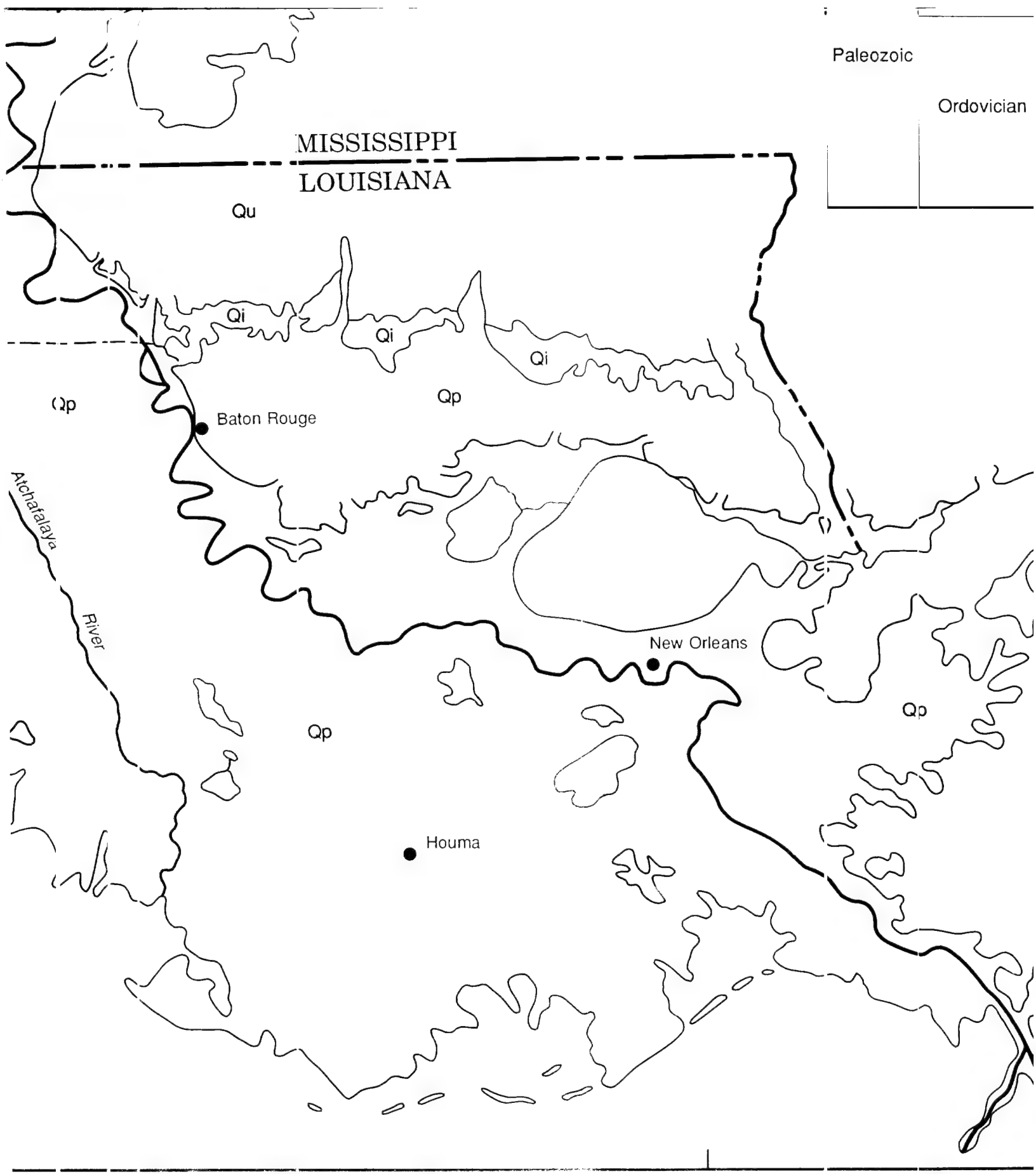
Cenozoic	Quaternary
	Tertiary
Mesozoic	Cretaceous
Paleozoic	Pennsylvanian
	Mississippian
	Ordovician

				Valley trains	
Cenozoic	Quaternary	Pleistocene		Deweyville Complex	Qd
				Prairie Complex	Qp
				Intermediate Complex	Qi
				Upland Complex	Qu
	Tertiary	Miocene			Tm
		Oligocene			To
		Eocene	Jackson		Te3
			Claiborne		Te2
			Wilcox		Te1
		Paleocene	Midway		Tx
Mesozoic	Cretaceous				uk
Paleozoic	Pennsylvanian				P
	Mississippian				M
	Ordovician	Cincinnatian			O3
		Mohawkian			O2
		Canadian			O1b
					O1a





GULF OF MEXICO



Paleozoic

Cincinnatian

O3

Ordovician

Mohawkian

O2

Canadian

O1b

O1a



GEOMORPHOLOGY AND
QUATERNARY GEOLOGIC HISTORY
OF THE LOWER MISSISSIPPI VALLEY

OUTCROPS AND SUBCROPS OF MAJOR UPLAND FORMATIONS

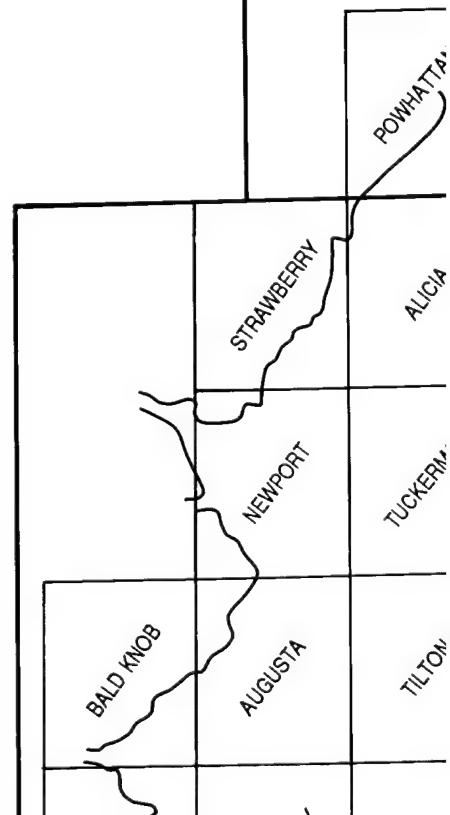
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15 MINUTE SERIES
USGS TOPOGRAPHIC QUADRANGLES
(1:62,500 - SCALE)

PLATE
DYERSBUR
POPLAR BL

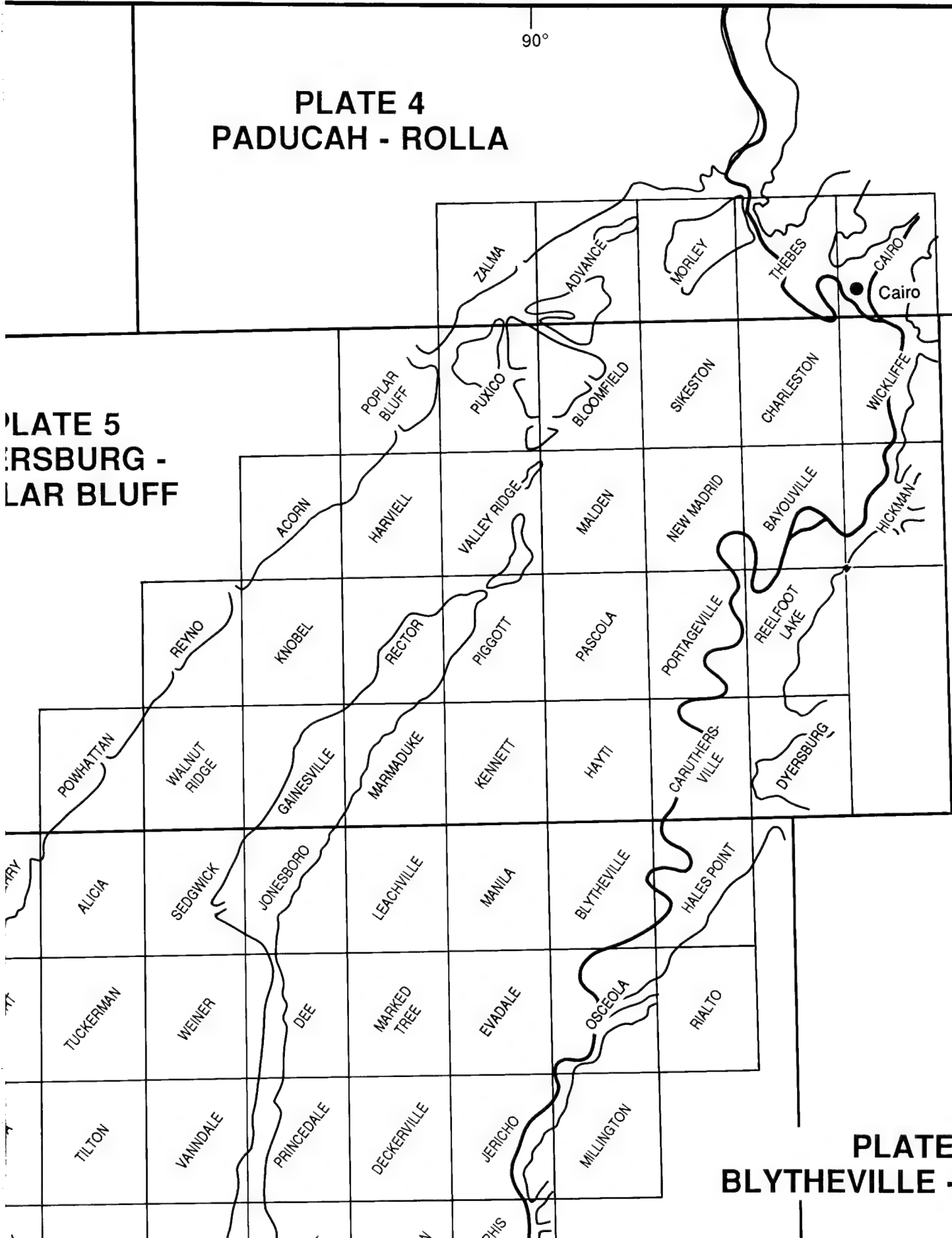
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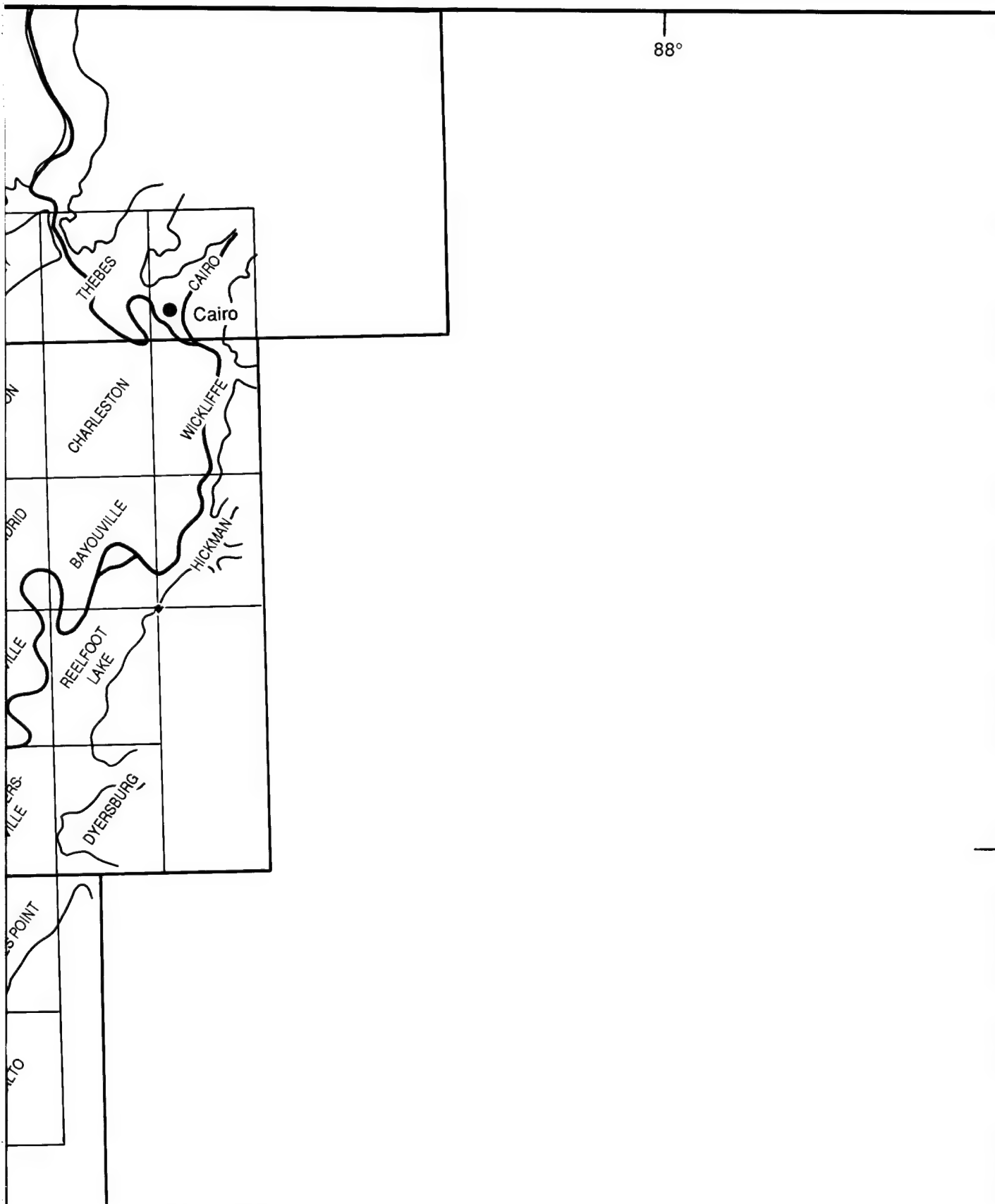
90°

**PLATE 4
PADUCAH - ROLLA**

**PLATE 5
Dyersburg -
Poplar Bluff**



**PLATE 6
BLYTHEVILLE - MEMPHIS**



88°

PLATE 6

BLYTHEVILLE - MEMPHIS

34°

Little Rock

PLATE 8
GREENWOOD - EL DORADO

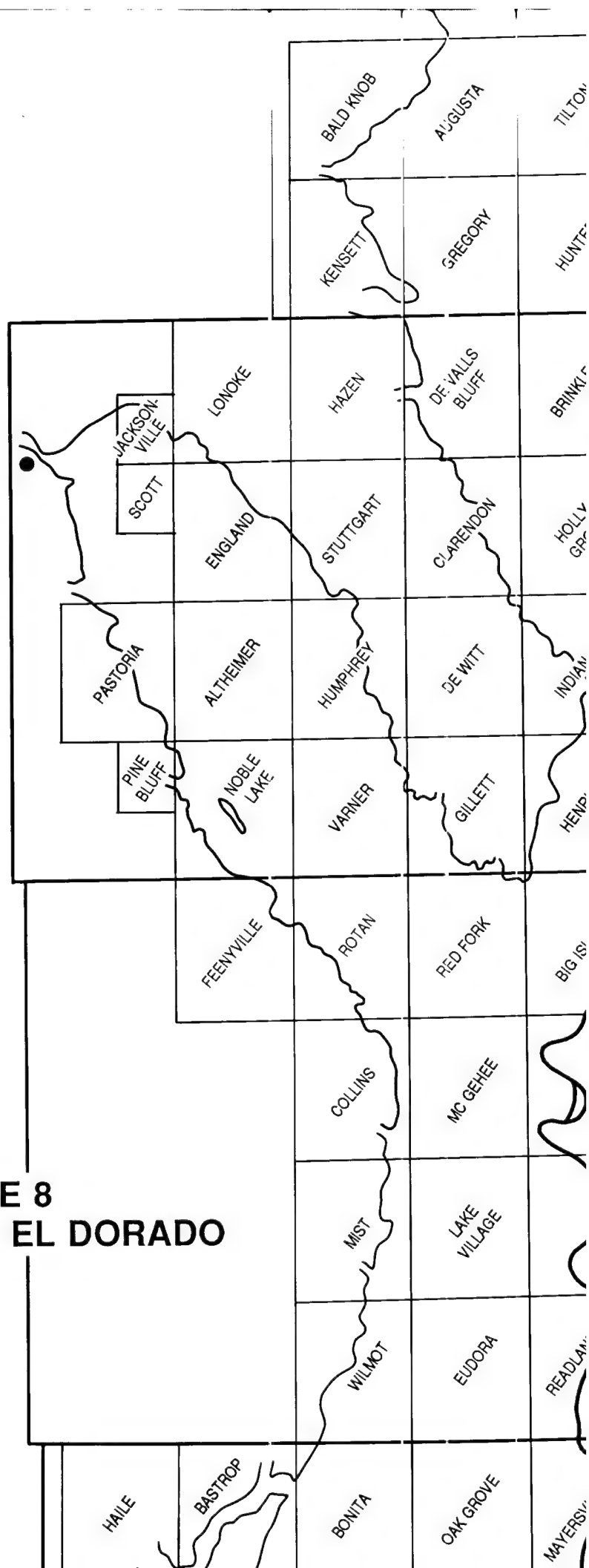


PLATE 6
BLYTHERVILLE - MEMPHIS

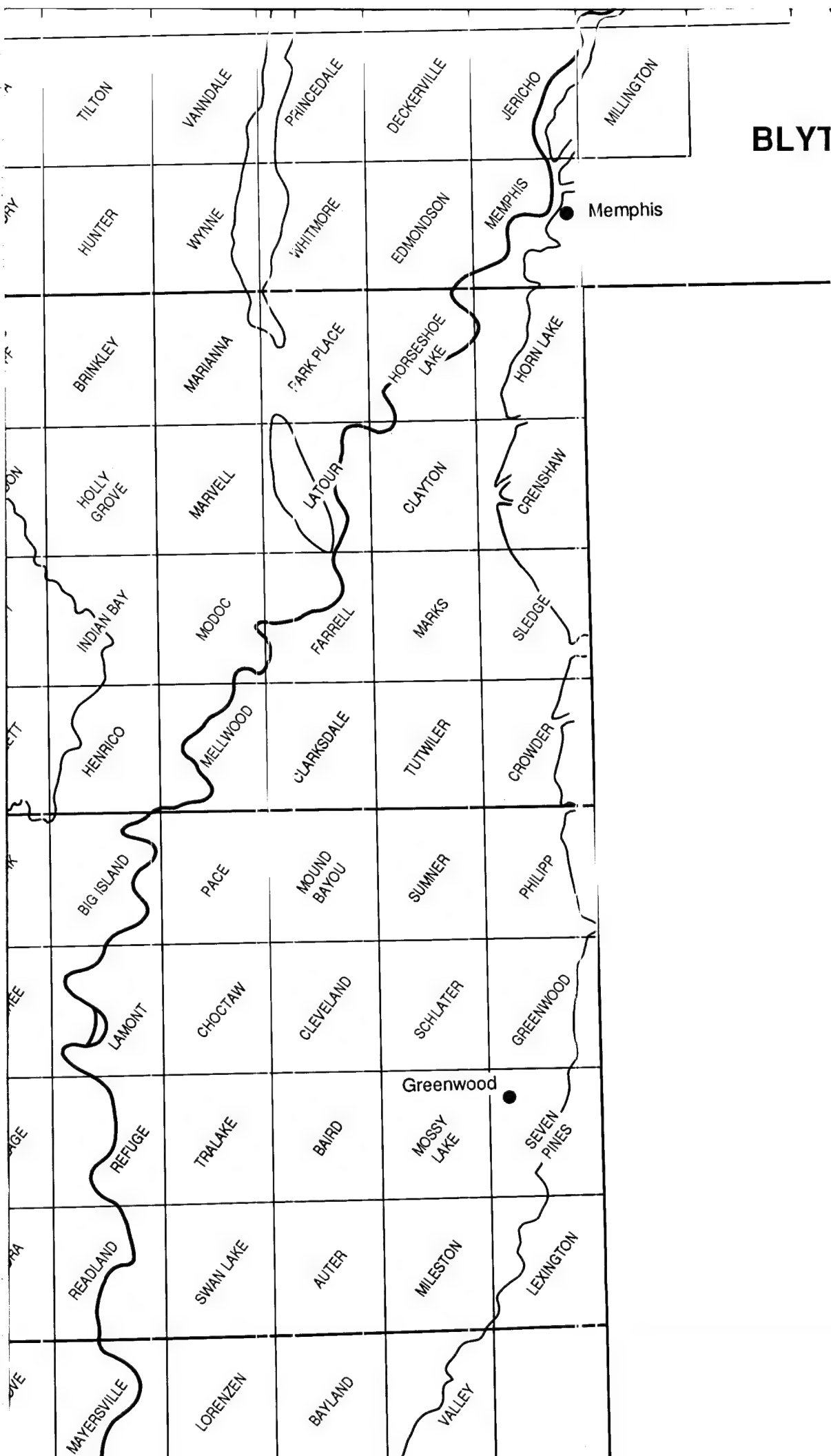


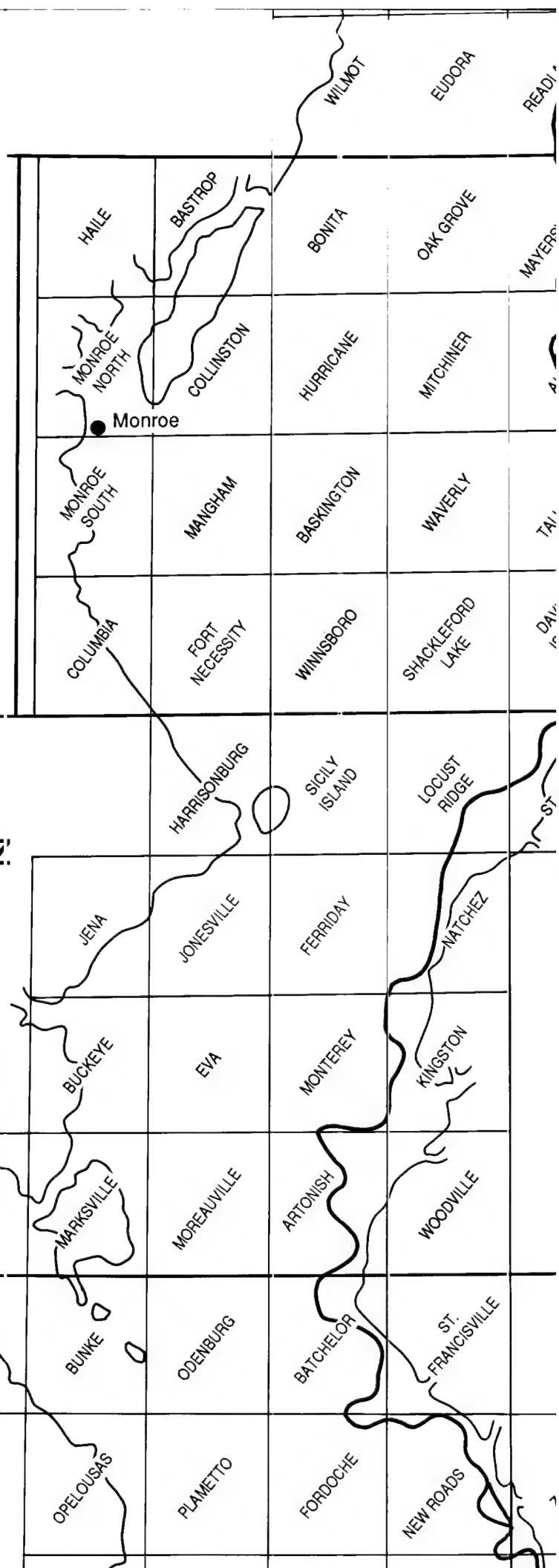
PLATE 6
BLYTHEVILLE - MEMPHIS

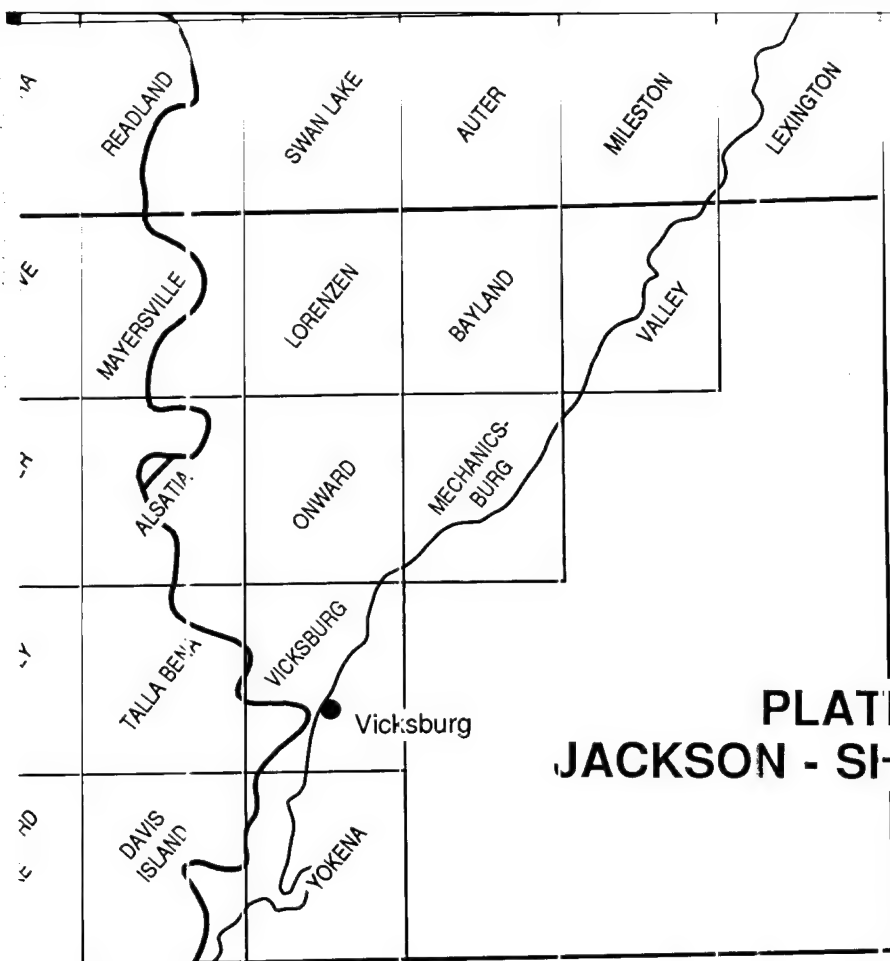
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**PLATE 10
ALEXANDRIA - NATCHEZ**

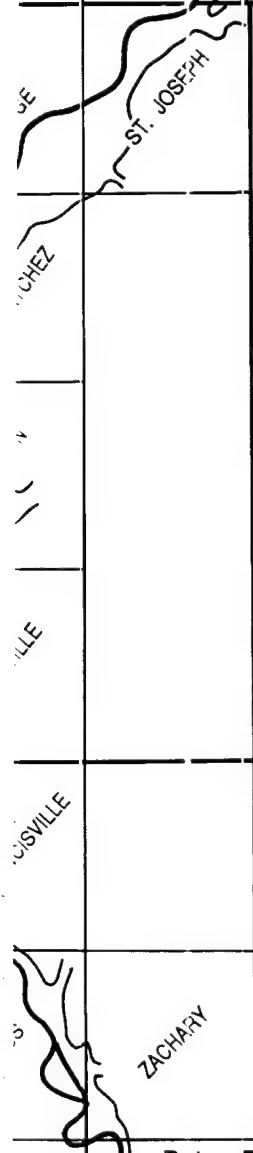
Alexandria

**PLATE 11
LAKE CHARLES -**





**PLATE 9
JACKSON - SHREVEPORT**



**PLATE 12
BATON ROUGE - MOBILE**

DRT

PLATE 12
ON ROUGE - MOBILE

**PLATE 11
LAKE CHARLES -
BATON ROUGE**

Lafayette

30°

**PLATE 13
PORT ARTHUR - NEW ORLEANS**

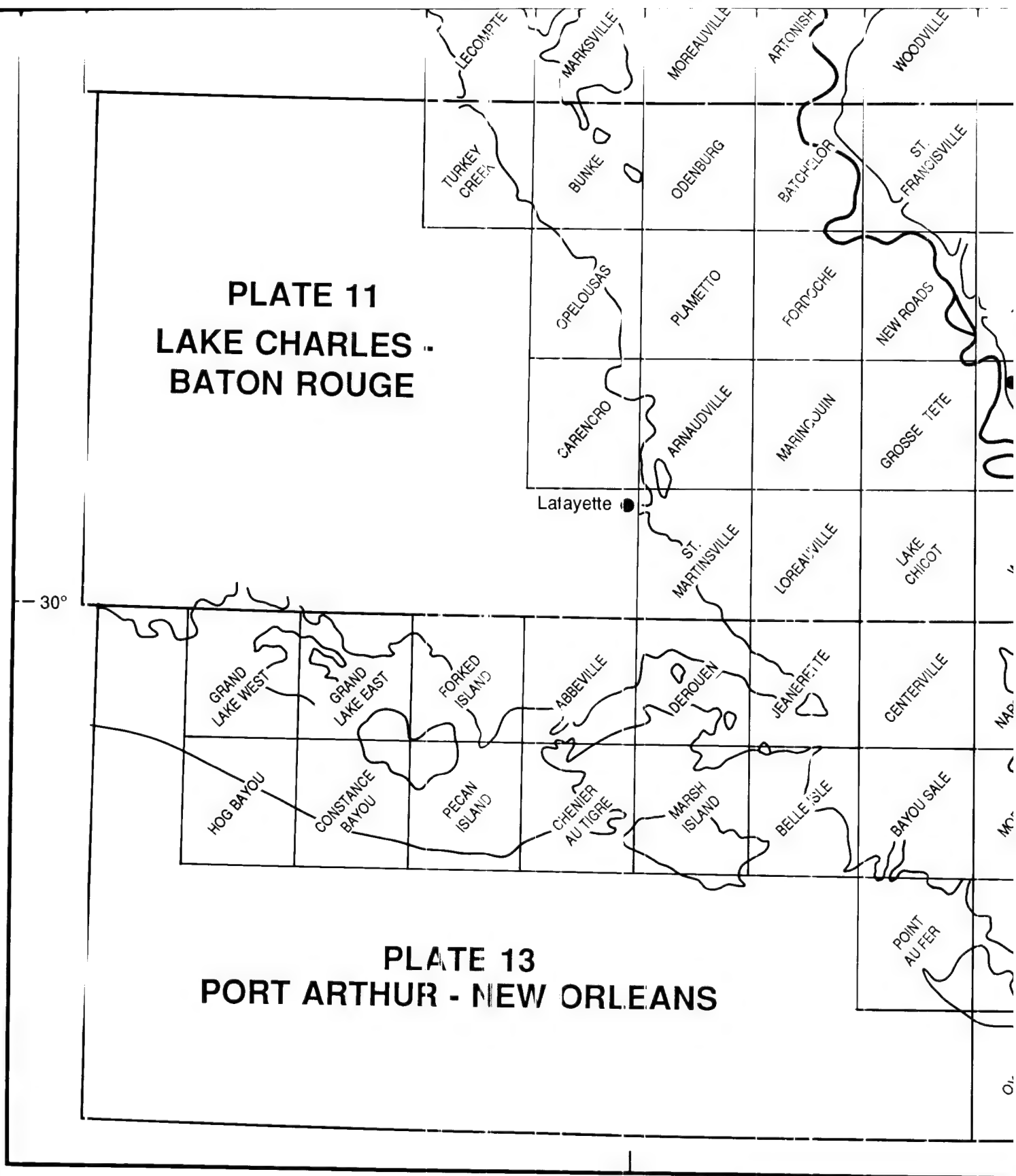


PLATE 12
BATON ROUGE - MOBILE

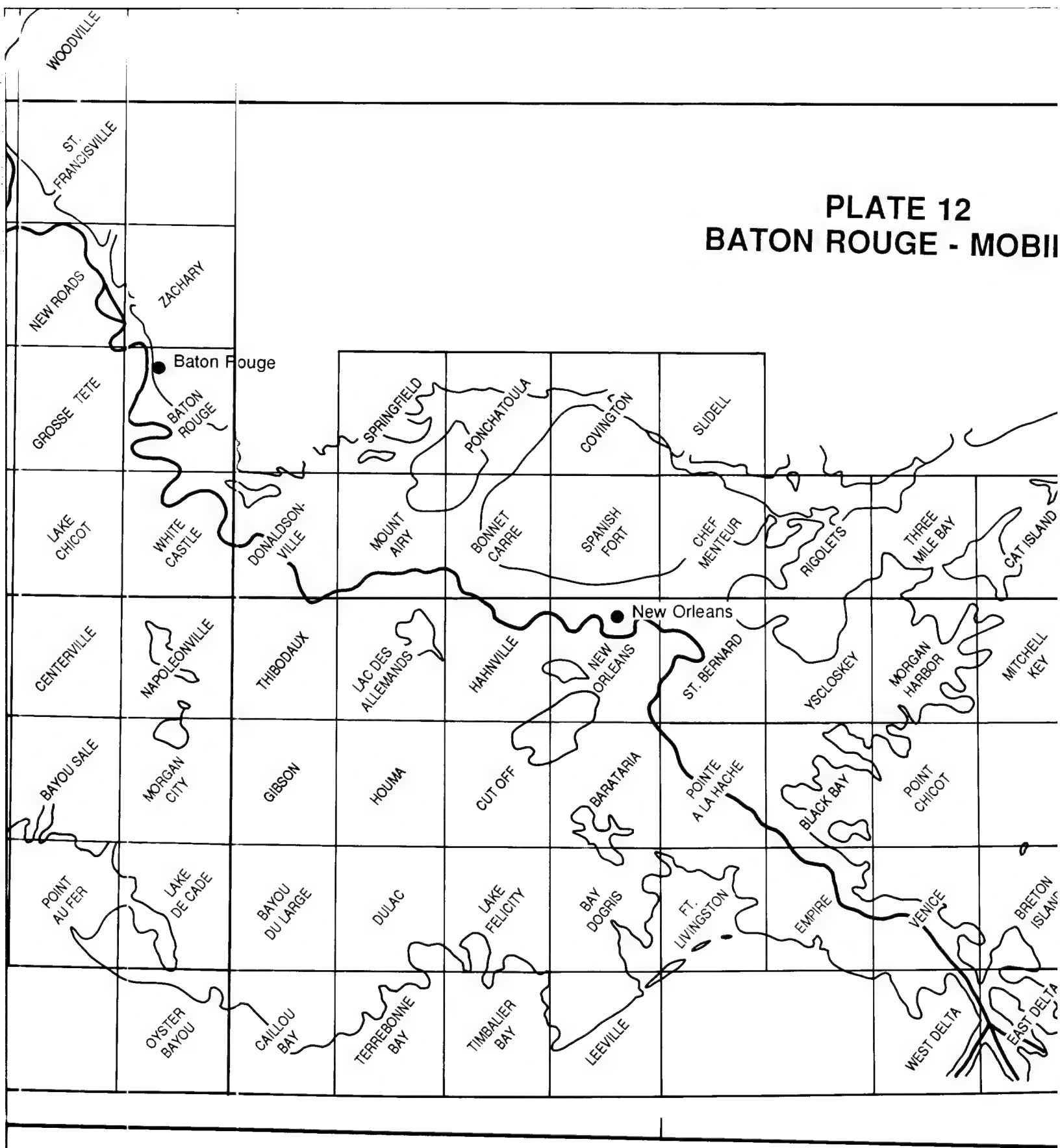


PLATE 12
ON ROUGE - MOBILE

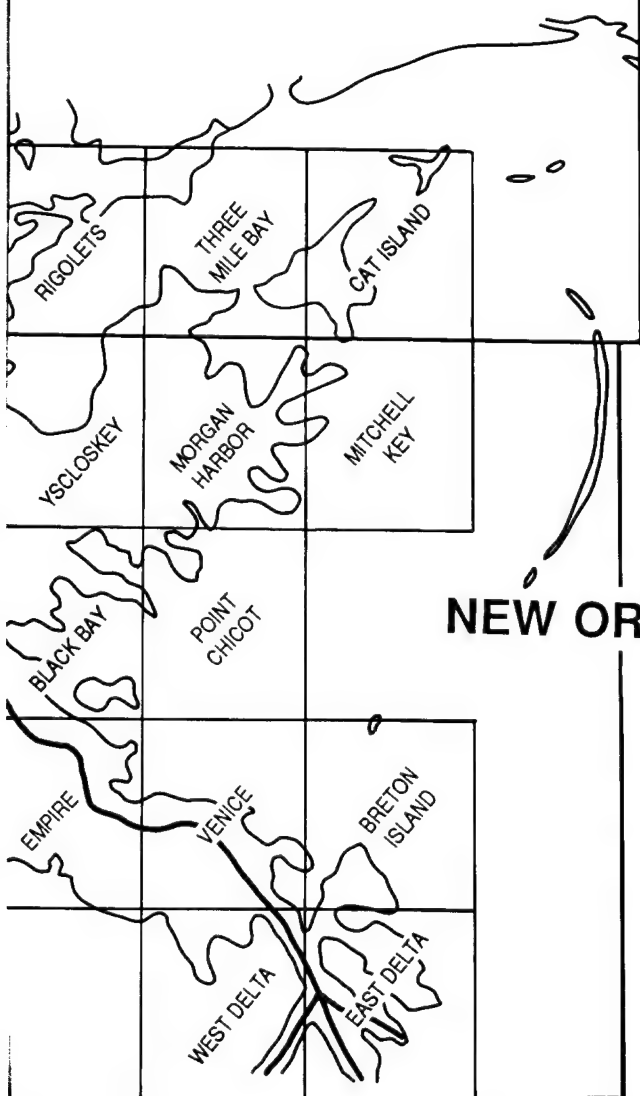


PLATE 14
NEW ORLEANS - BRETON SOUND

GEOMORPHOLOGY AND
QUATERNARY GEOLOGIC HISTORY
OF THE LOWER MISSISSIPPI VALLEY

**INDEX TO PLATES
AND QUADS**

Holocene Units (Alluvial Valley)

Hal

Undifferentiated alluvium of small streams.

Hpm 1-6

Point bar (meander scroll) deposits of Mississippi River of different ages separated by hachured lines.

Hchm

Abandoned channels (neck and chute cutoff).

Hcom

Abandoned courses of the Mississippi River and subsequent small streams. Includes trunk channels.

Hpa 1-8

Point bar (meander scroll) deposits of Arkansas River.

Hpr 1-5

Point bar (meander scroll) deposits of Red River.

Hps

Point bar (meander scroll) deposits of small streams.

Hpu

Point bar (meander scroll) and associated deposits.

QUATERNARY

lley)

small streams.

deposits of Mississippi River meander belts 1 to 6. Meander belts
marked by hachured lines with tick marks on the older meander belt side.

and chute cutoffs) of the Mississippi River.

Mississippi River. Projected where removed by lateral migration of
includes trunk channels of the major delta complexes.

deposits of Arkansas River meander belts 1 to 8.

deposits of Red River meander belts 1 to 5.

deposits of small streams.

and associated deposits of meander belts buried by backswamp

Holocene

Hnl

Had

Hdi

Hds

Hdlp

Hc

WATERNARY DEPOSITS OF THE LOWER MISSISSIPP

LEGEND

PLATES 4 TO 14

Holocene Units (Deltaic and Chenier Plains)

Hnl

Natural levees in the deltaic plain associated with major distributaries and the Mississippi River. Delineated where natural levees overlie interdistributary and point bar deposits, but not point bar deposits.

Natural levees not delineated in the alluvial valley because of their widespread distribution.

Had

Principal abandoned deltaic distributaries of the Modern (M), Plaquemines (P), St. Bernard (B), and Teche (T) delta complexes (delta lobes). (U) denotes deltaic association not known.

Hdi

Interdistributary deposits. Represents brackish to saline marsh environments.

Hds

Inland swamp deposits. Represents freshwater swamp environment.

Hdlp

Lacustrine and lacustrine deltaic deposits of the Atchafalaya Basin.

Hc

Cheniers and relict beach ridges.

MISSISSIPPI VALLEY

tributaries and the present
interdistributary and other deltaic

e of their widespread and complex

l), Plaquemines (P), Lafourche (L),
es). (U) denotes deltaic complex

marsh environments.

environment.

ya Basin.



Late Wisconsin Stage valley tr



Early Wisconsin Stage valley t



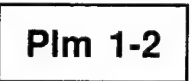
Sand dune fields and eolian d



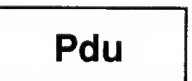
Point bar (meander scroll) dep



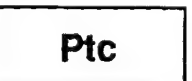
Abandoned channels (cutoffs)



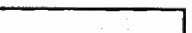
Lacustrine deposits of the Dew
bars and Level 2 includes lake



Undifferentiated fluvial deposits



Undifferentiated fluvial deposits



Stage valley trains where levels are not separately delineated.

Stage valley trains where levels are not separately delineated.

ls and eolian deposits on valley trains.

der scroll) deposits of the Deweyville Complex.

nnels (cutoffs) of the Deweyville Complex.

isits of the Deweyville (Lake Monroe) Complex. Level 1 includes beaches and
2 includes lake plain remnants.

fluvial deposits of the Deweyville Complex.

fluvial deposits of the Cache River terrace.

Hpu

Point bar (meander scroll) and associated deposits.



Abandoned channels (neck and chute cutoff rivers).



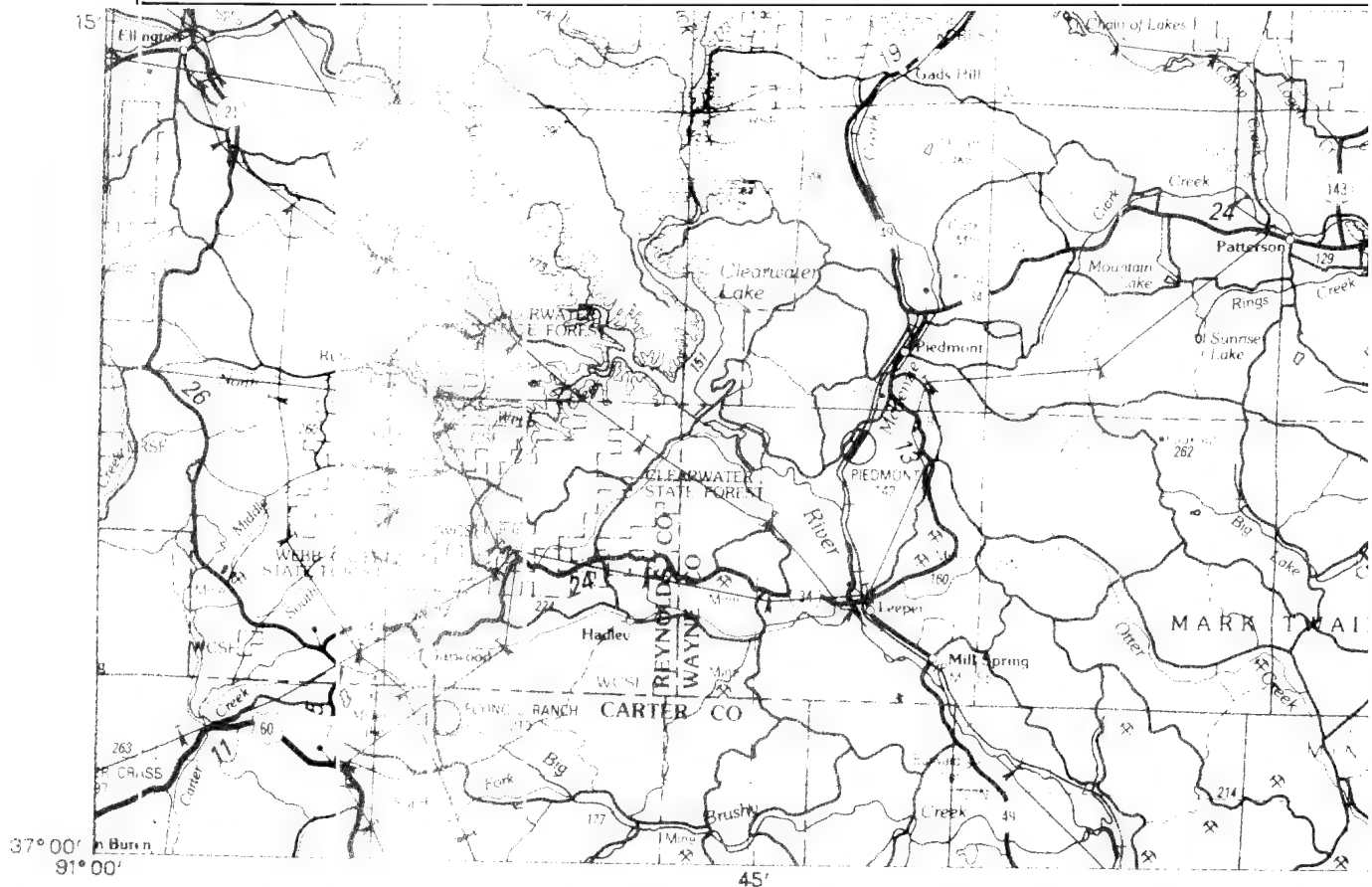
Abandoned courses of the Arkansas (A), Re (W), and smaller (S) rivers.

Hb

Backswamp (floodbasin) deposits.

Haf

Alluvial fans and aprons along valley margin such as point bar or backswamp.



deposits of small streams.

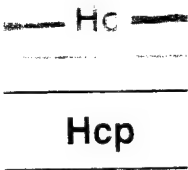
and associated deposits of meander belts buried by backswamp

and chute cutoffs) of the Arkansas, Red, Black, White, and smaller

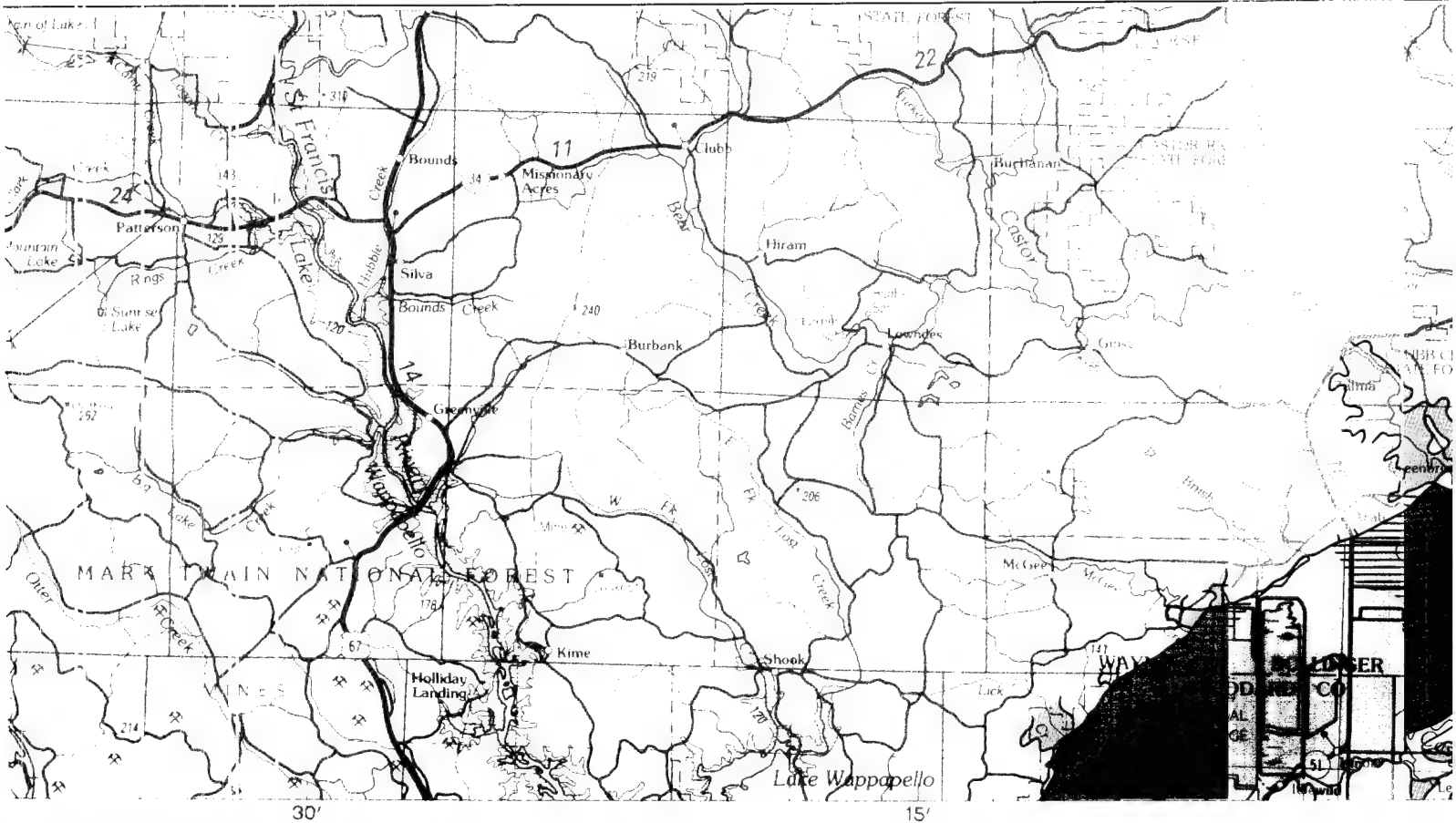
Arkansas (A), Red (R), Black/St. Francis (B-SF), Black (B), White

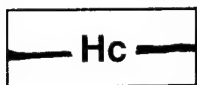
deposits

along valley margins. Shown as overprint on underlying deposits,
backswamp.



Pleistocene



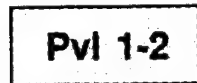


Cheniers and relict beach ridges.

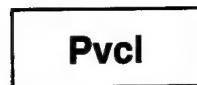


Undifferentiated paludal deposits of the chenier plain. Represents brackish to freshwater environments.

Pleistocene Units



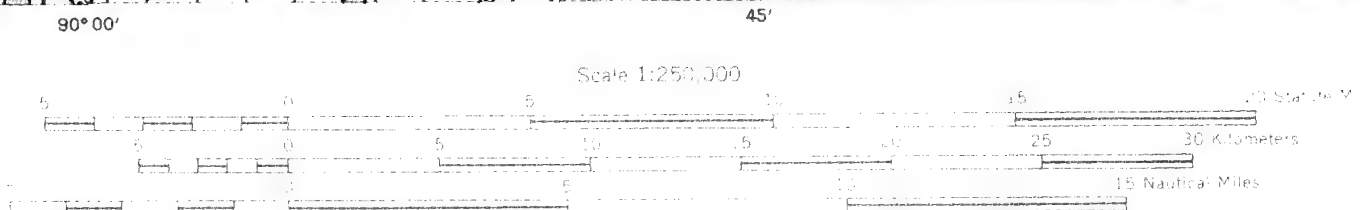
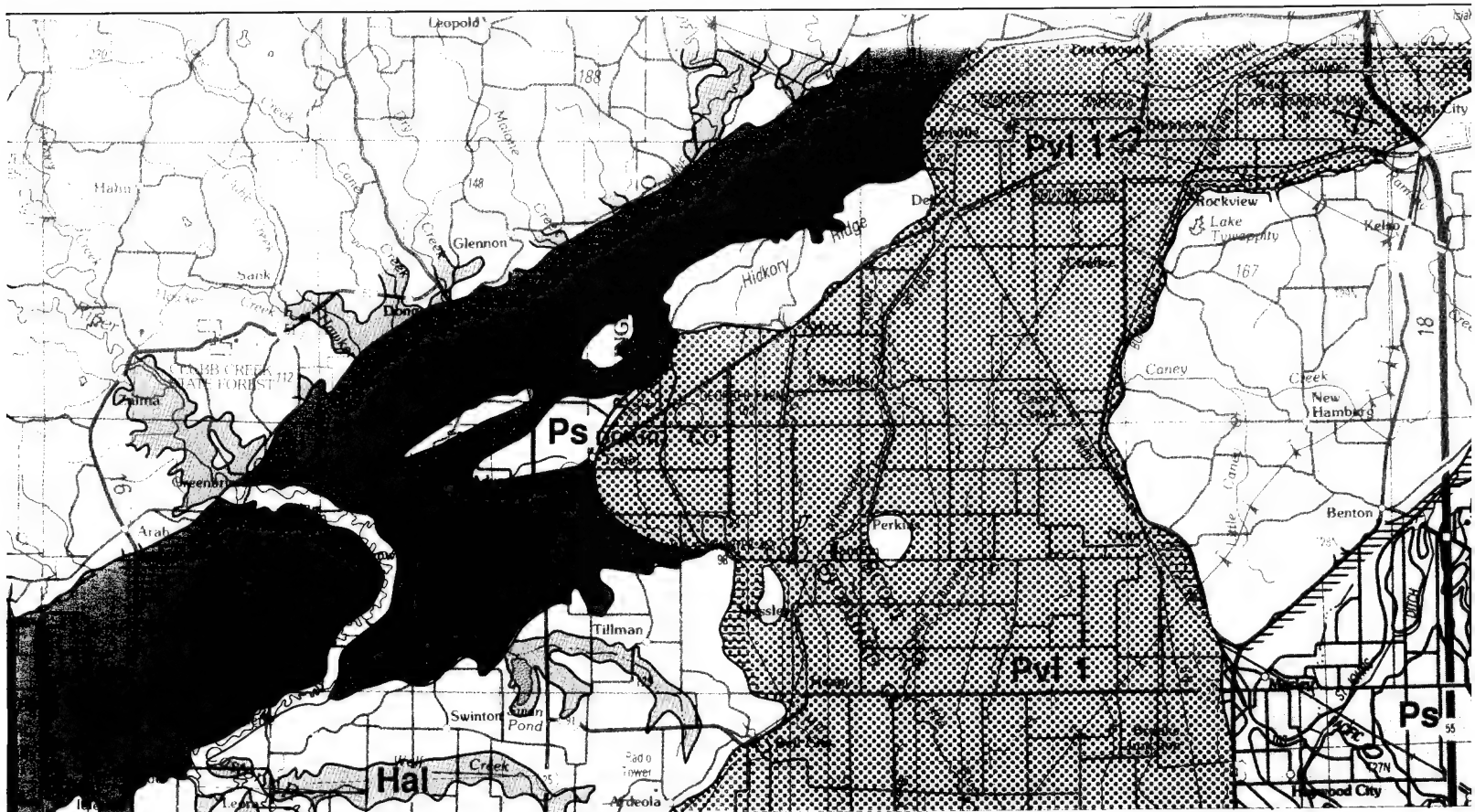
Late Wisconsin Stage valley train Levels 1 and 2. Includes both interfluvial and relict channels unless channels delineated separately.



Relict channels of Late Wisconsin Stage valley train. Delineated only on Level 1.



Early Wisconsin Stage valley train Levels 1 to 5. Interfluvial and relict channels separately delineated.



presents brackish to saline marsh

s both interfluvial and relict

reached only on Level 2.

es and relict channels not

Ptc

Undifferentiated fluvial deposits

Ptu

Undifferentiated fluvial deposits

Ppp 1-2

Point bar (meander scroll) deposits
Probable Wisconsin Stage. Two

Ppch

Abandoned channels (cutoffs) and
the Prairie Complex. Probable

Ppu 1-2

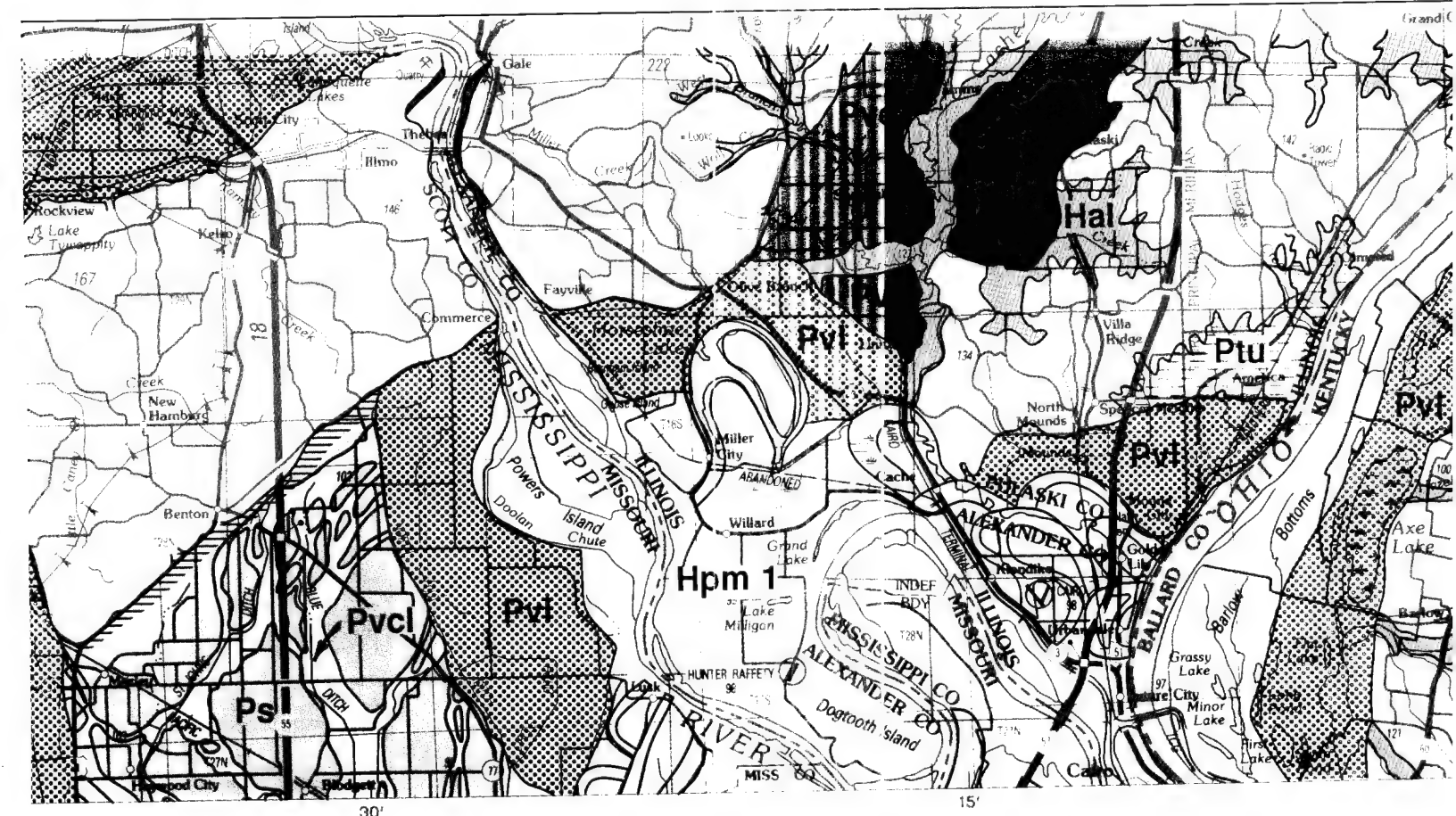
Undifferentiated fluvial deposits
deposits of the Mississippi, Arkansas



Abandoned channels and courses
Complex, and of the Black/St. F

Pi

Undifferentiated fluvial deposits



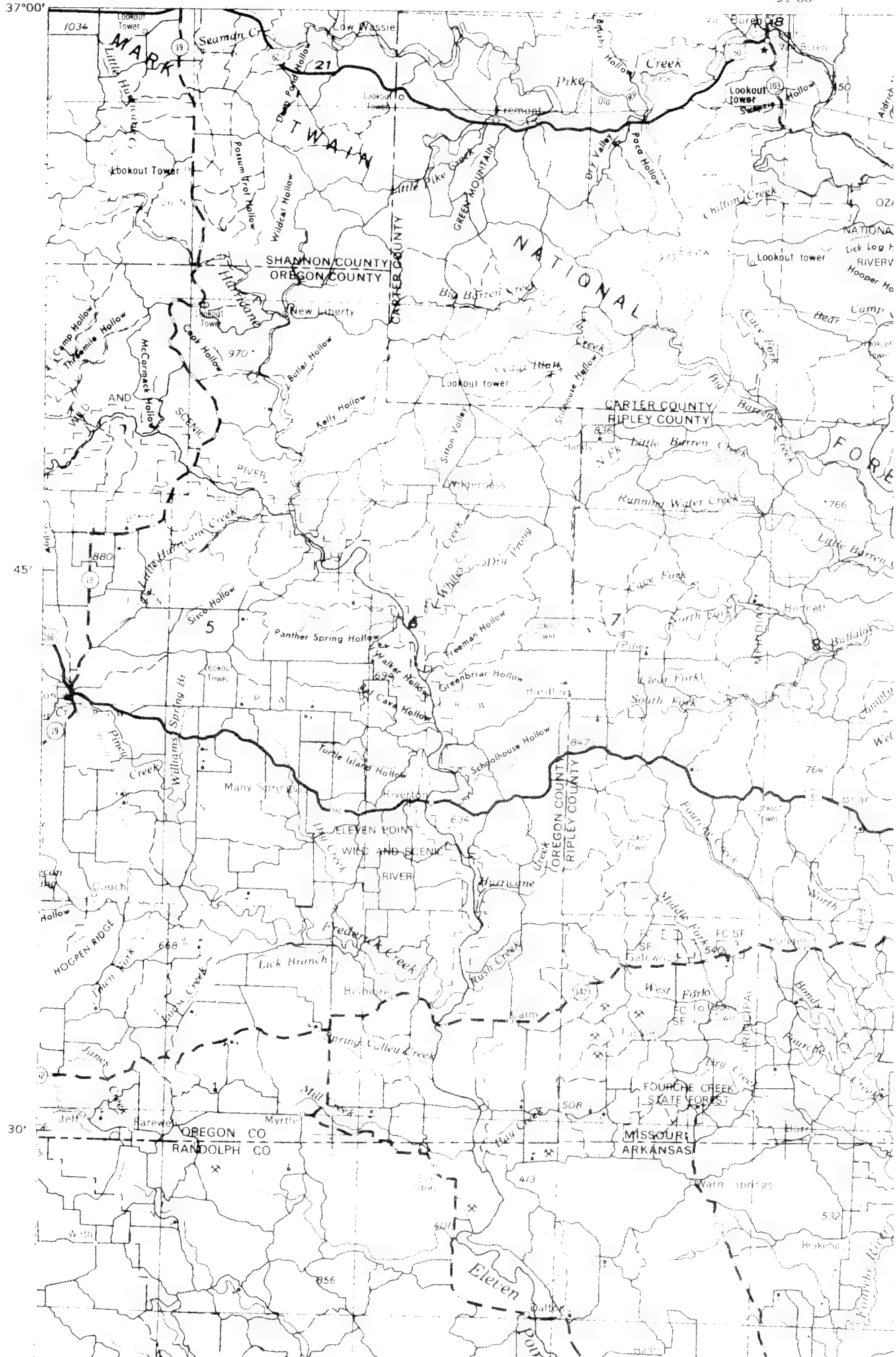
Station 24 km

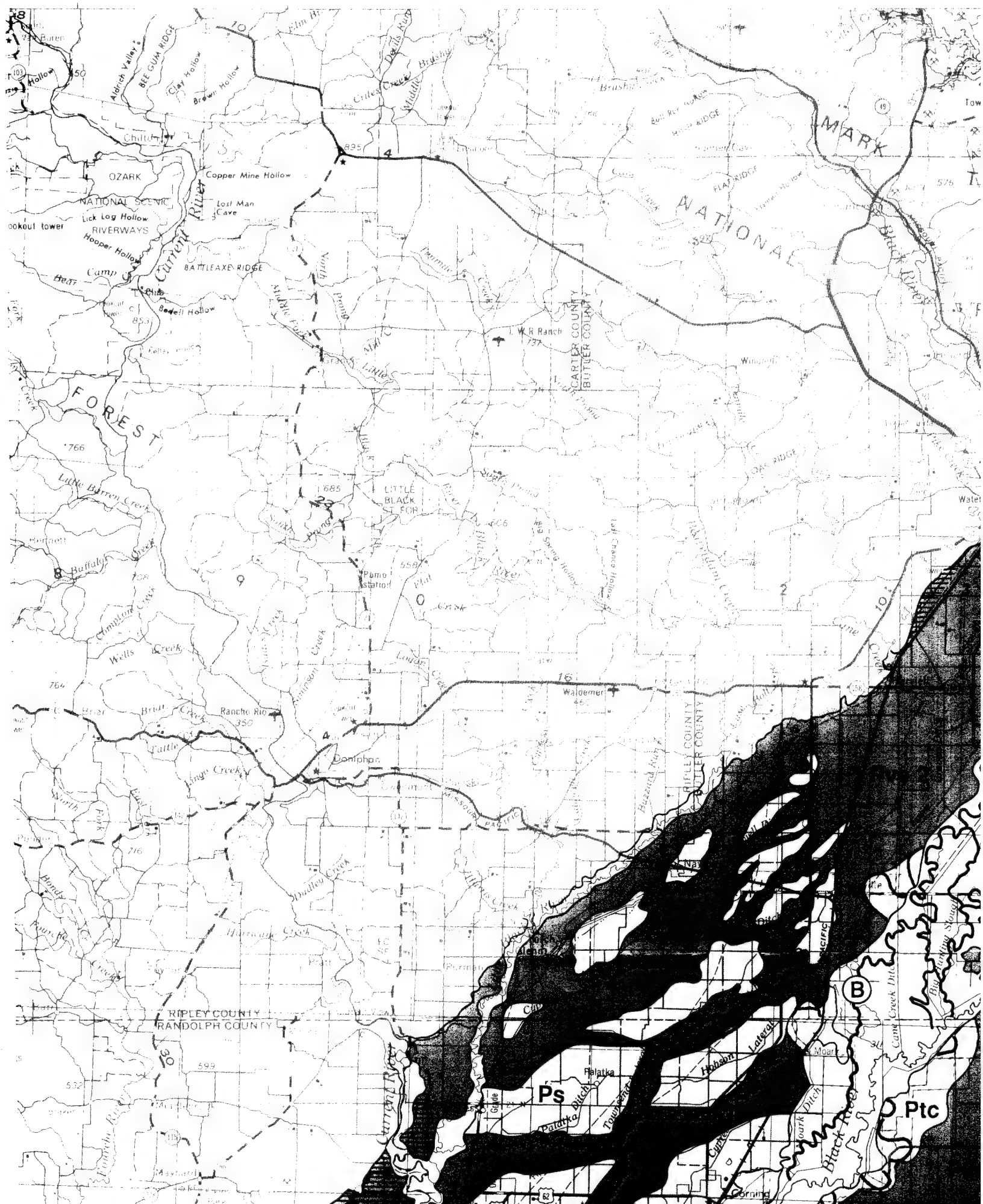
30 Kilometers

15 Nautical Miles

vial deposits of the Intermediate Complex.



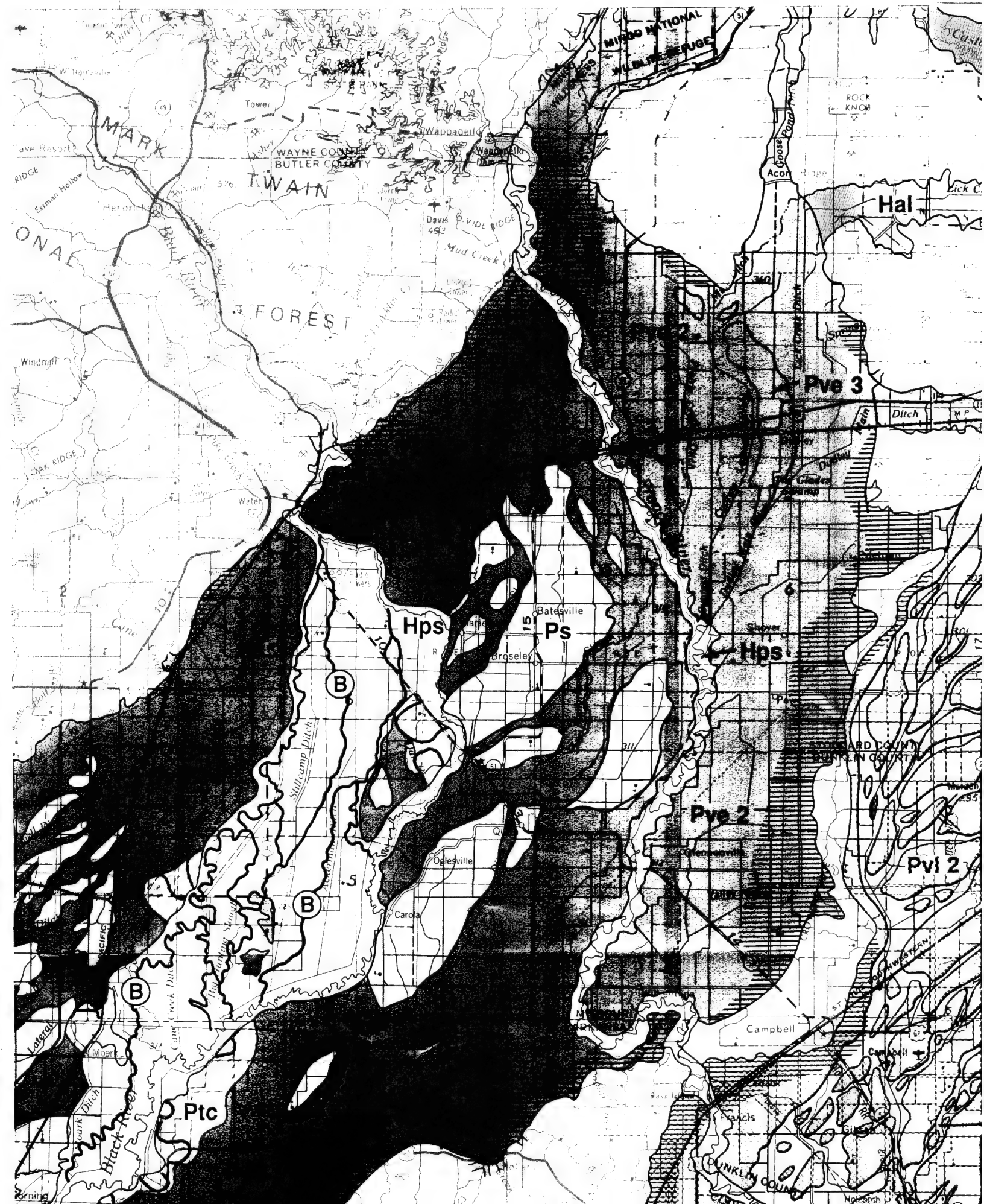


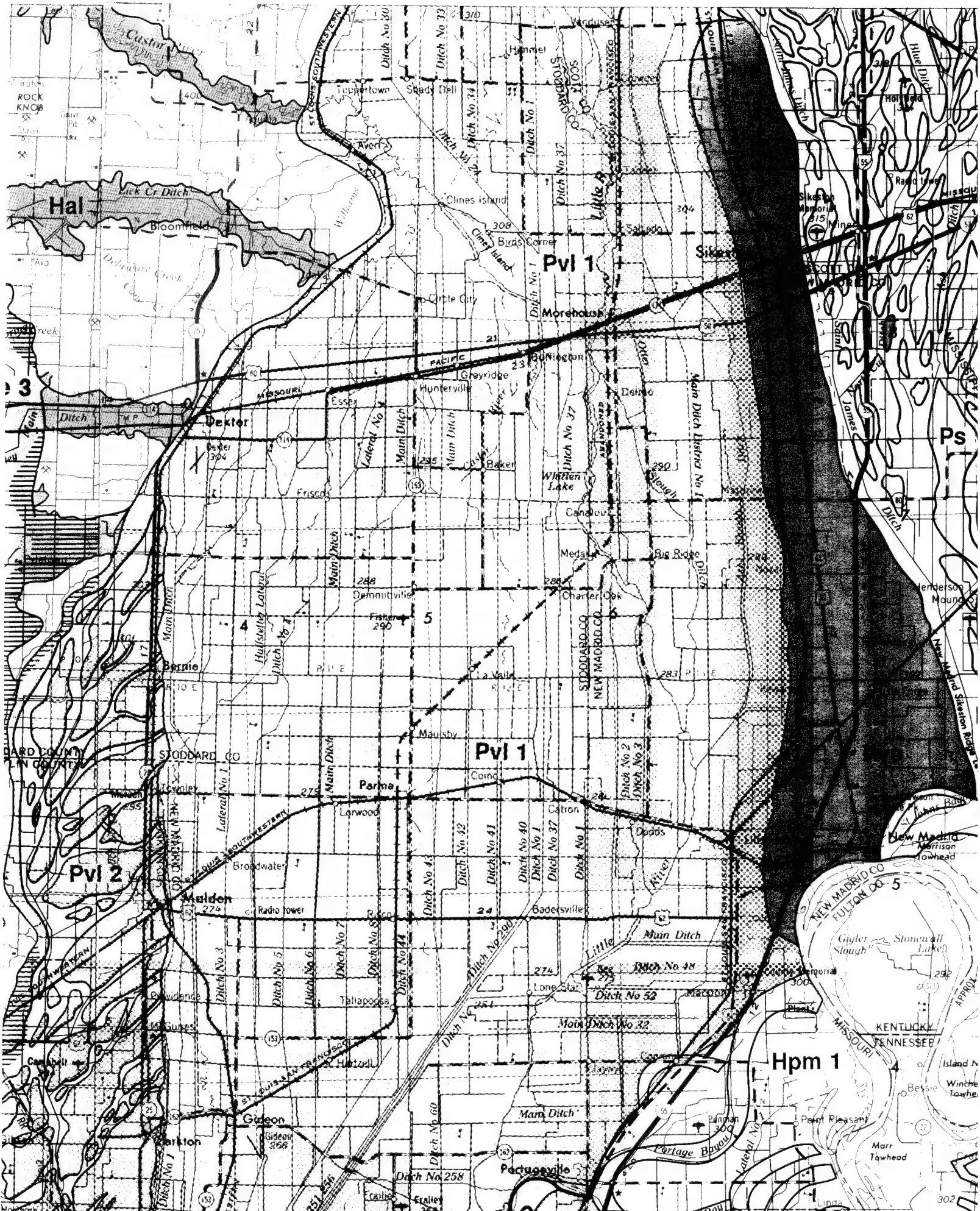


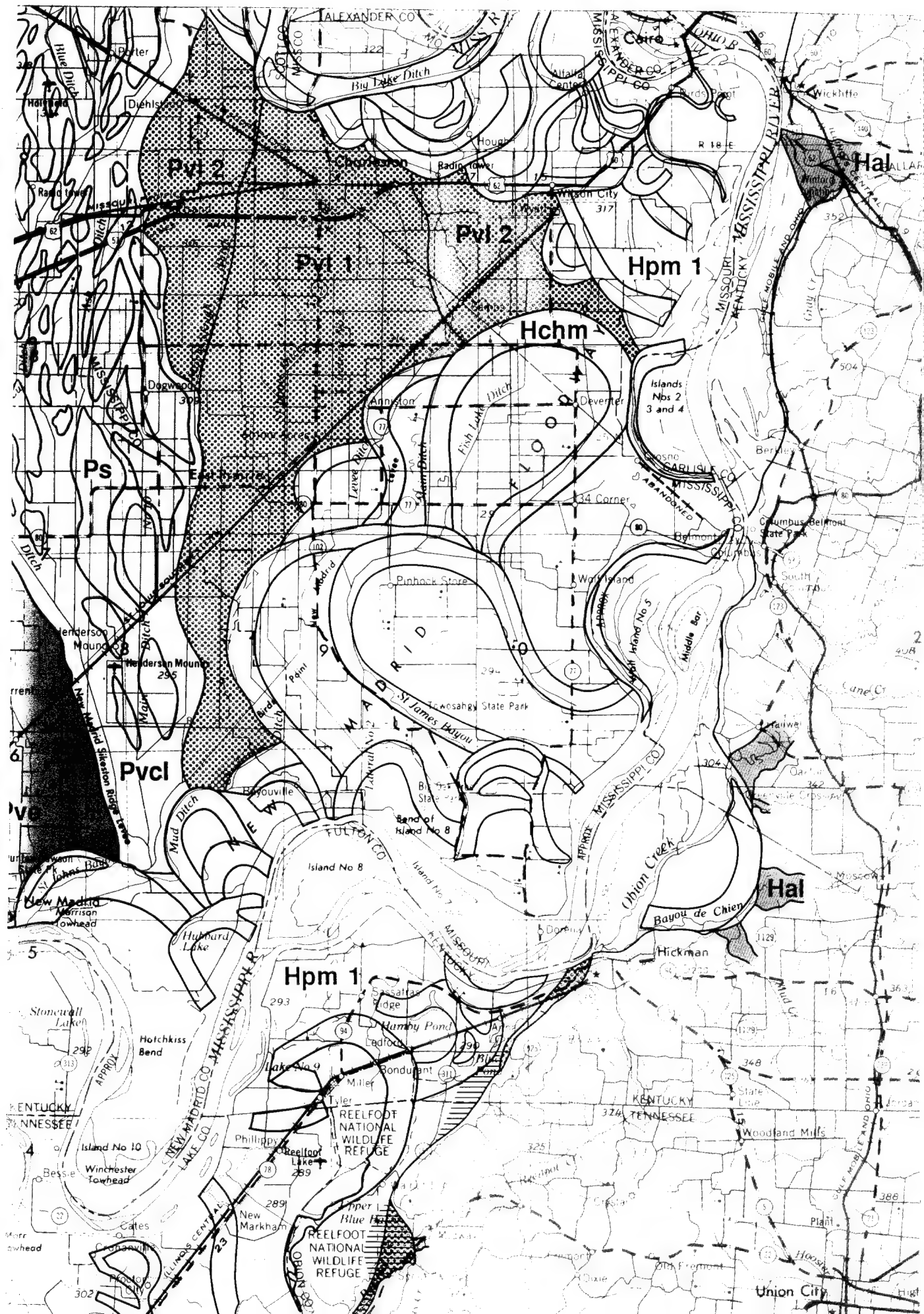
30'

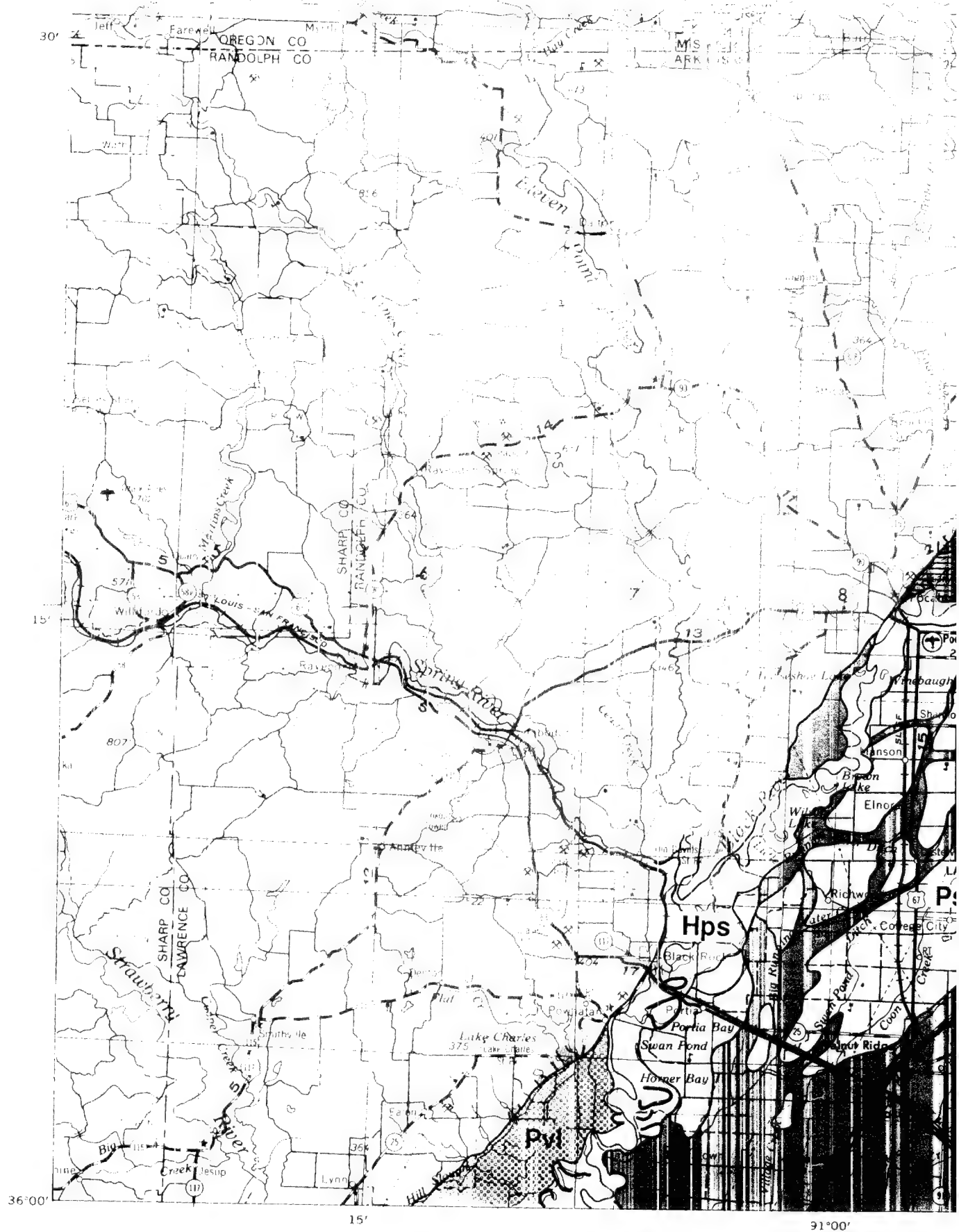
15'

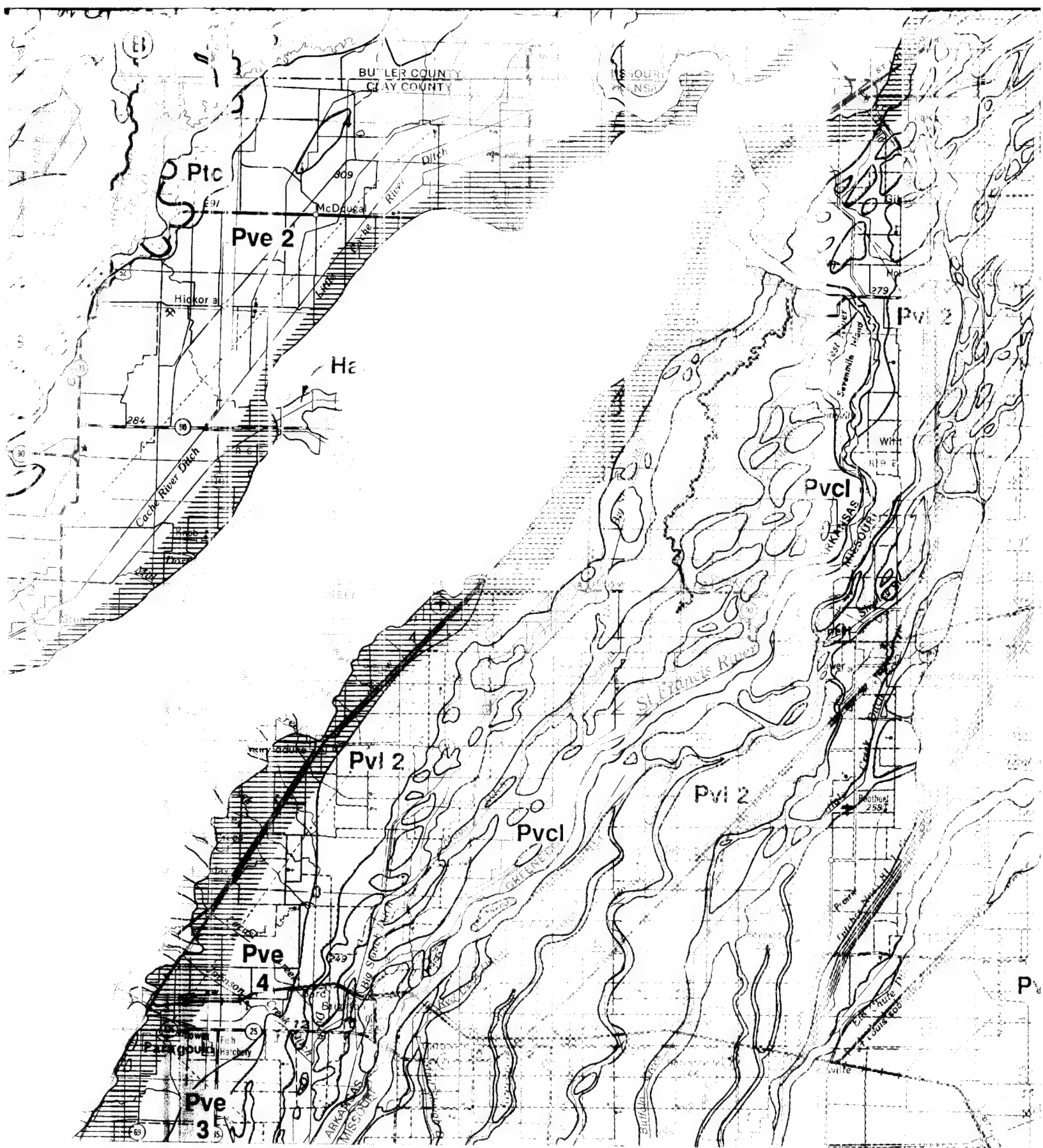
90°00'

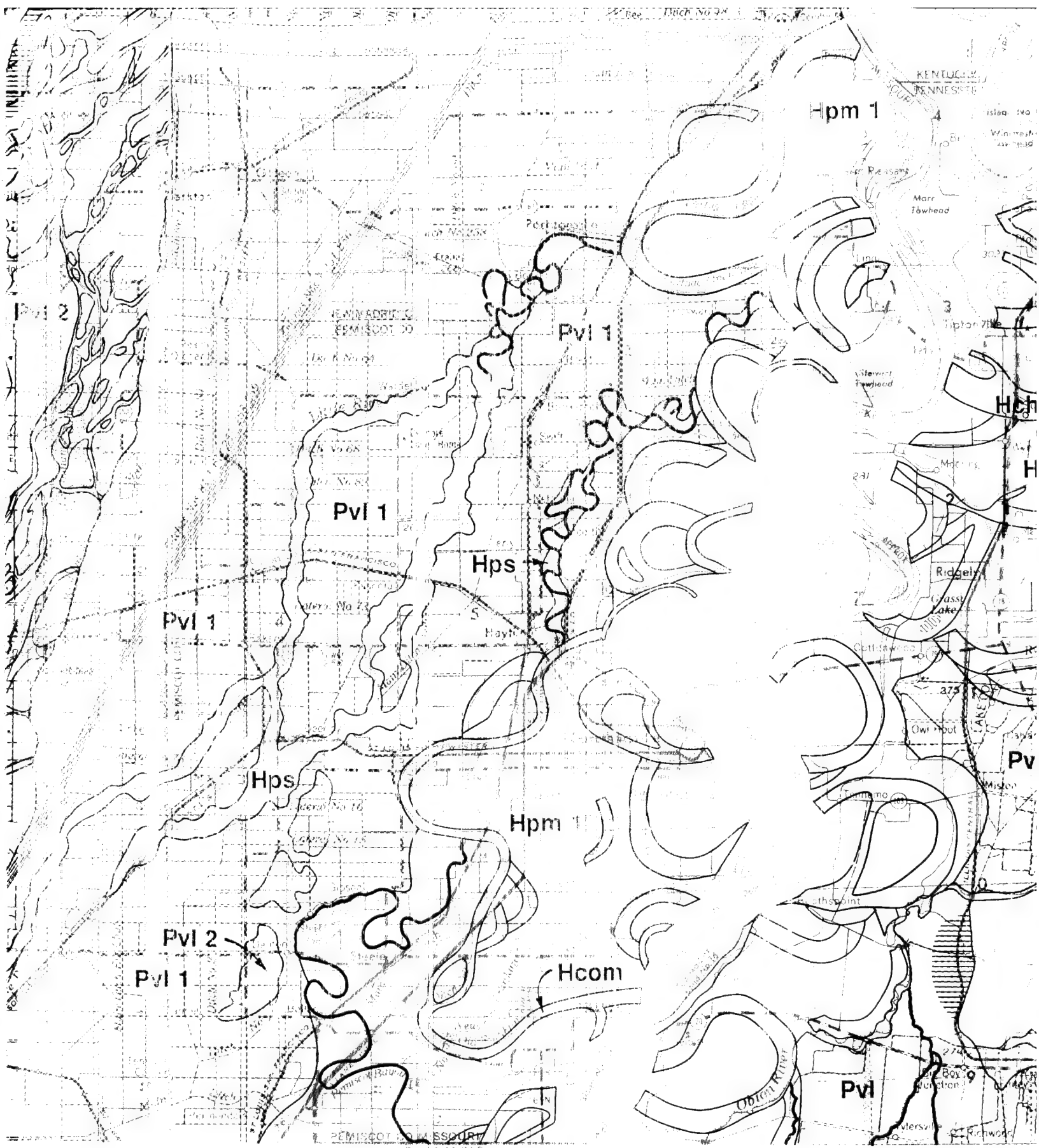


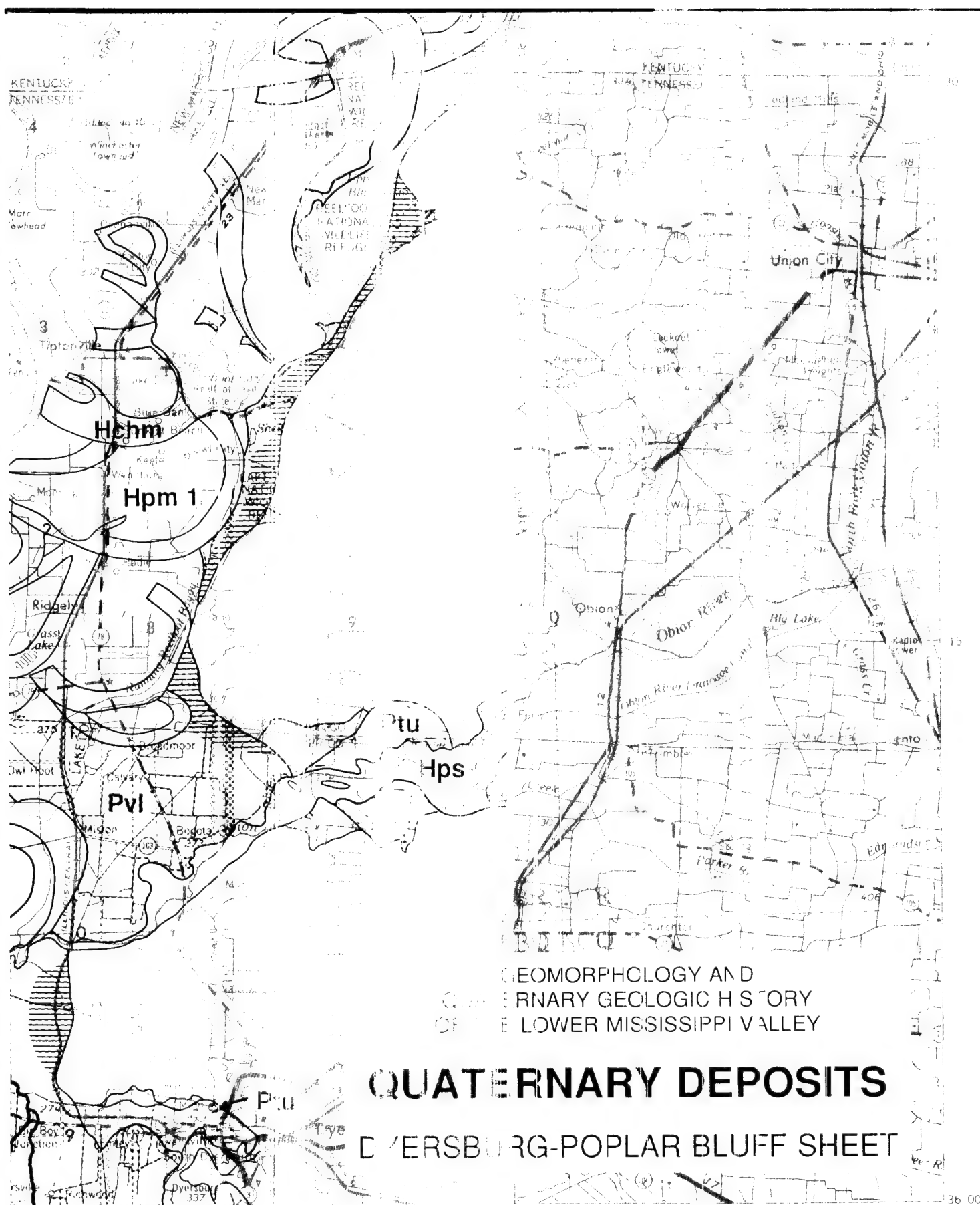




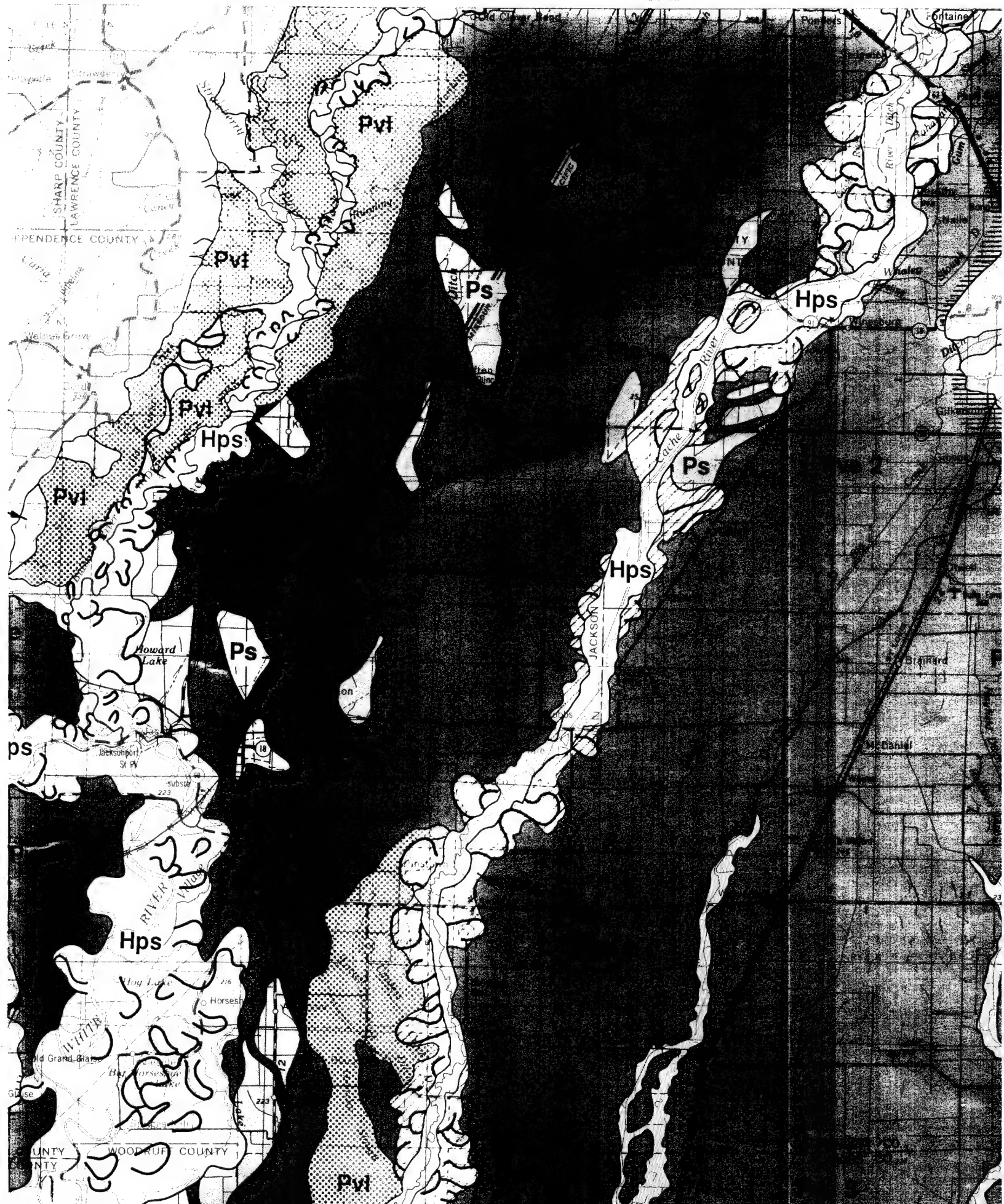




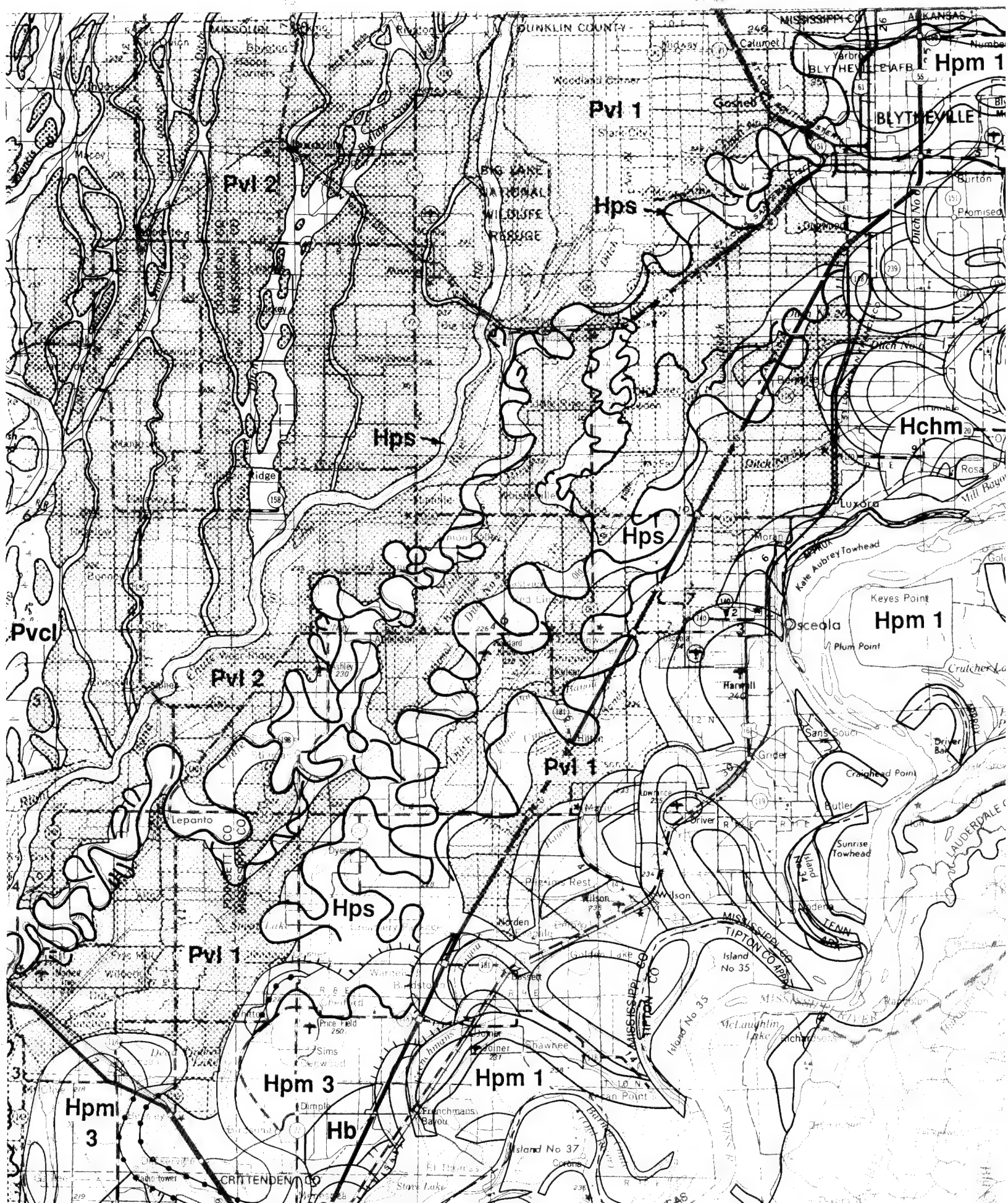


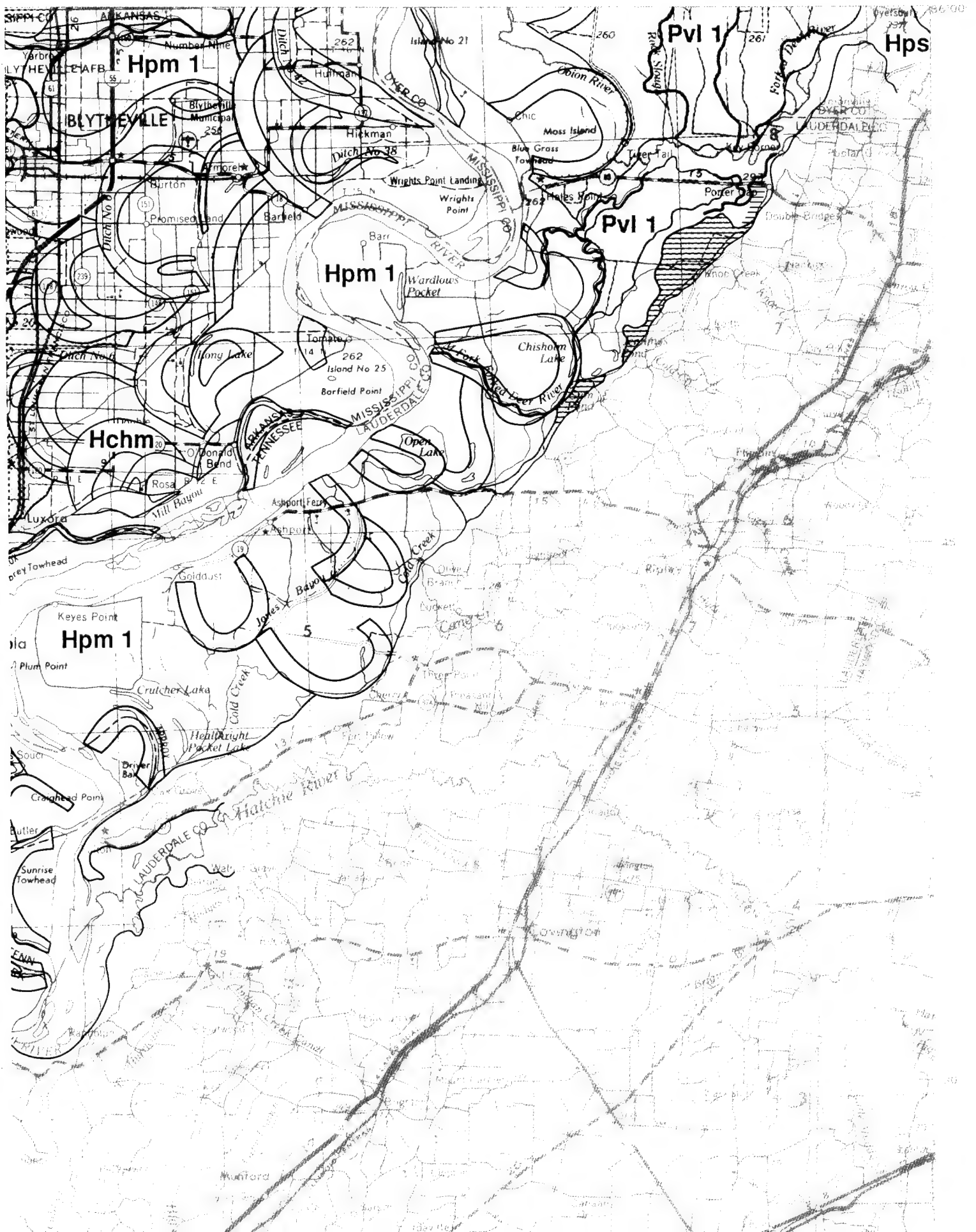






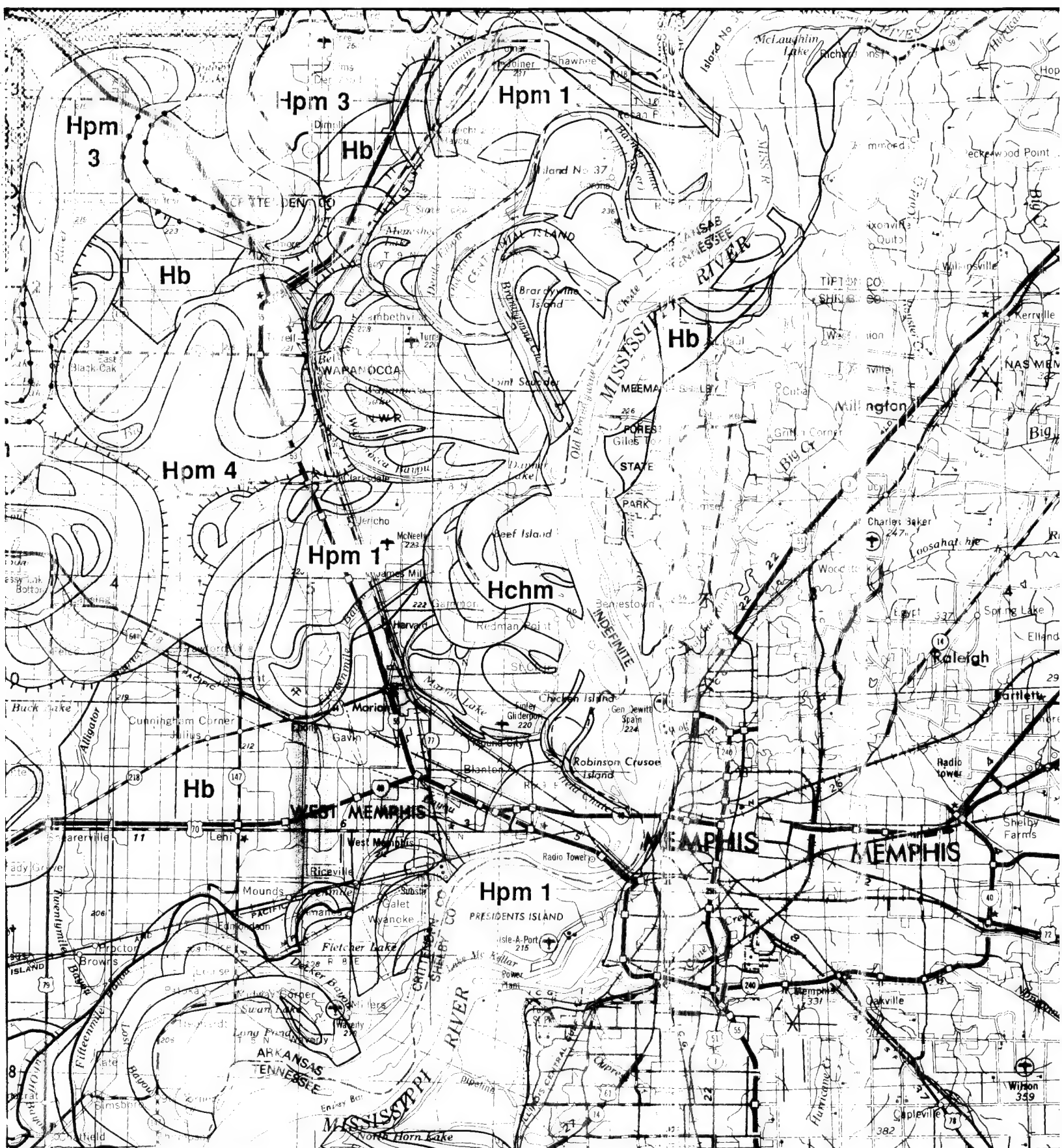






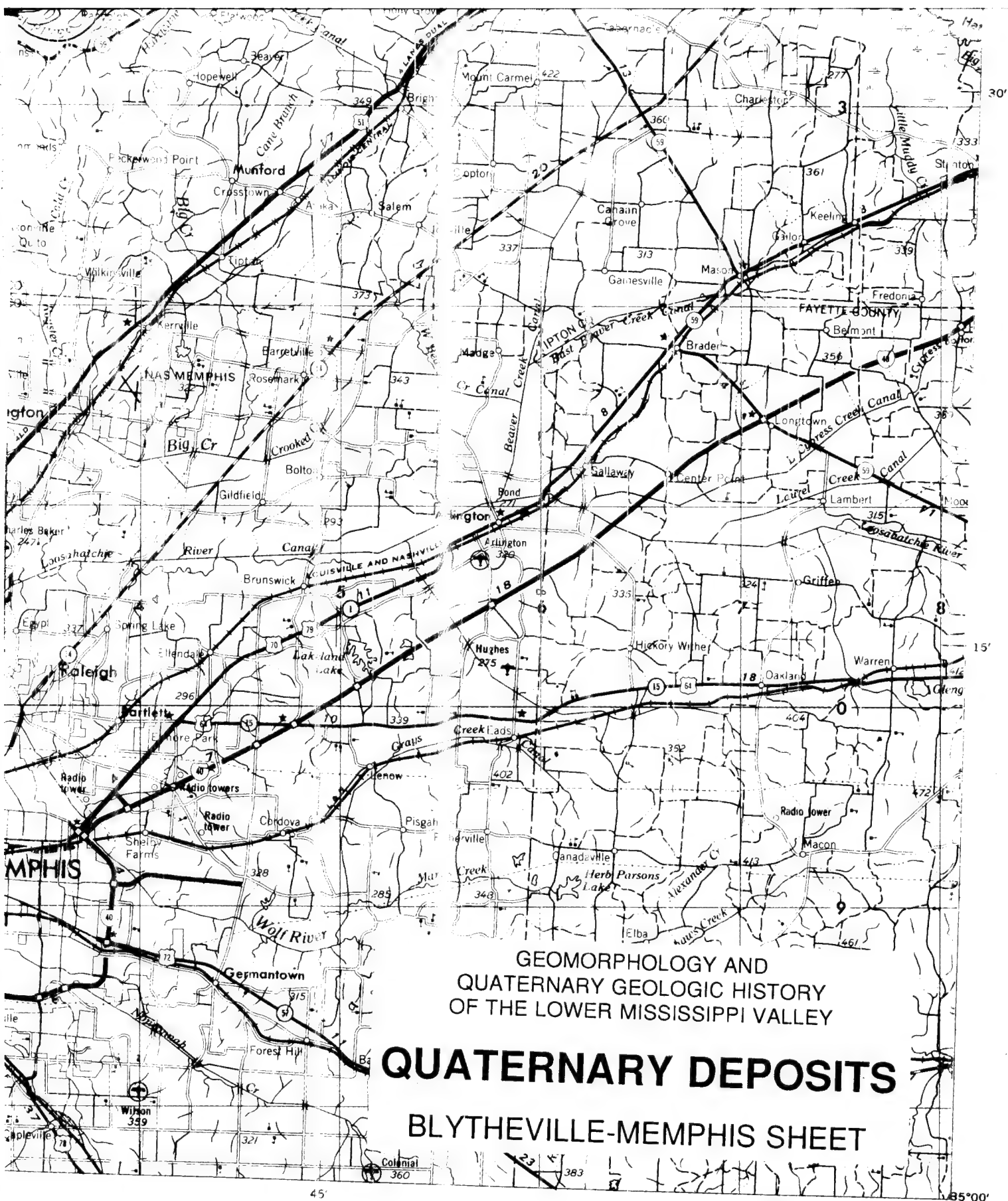






15'

90°00'

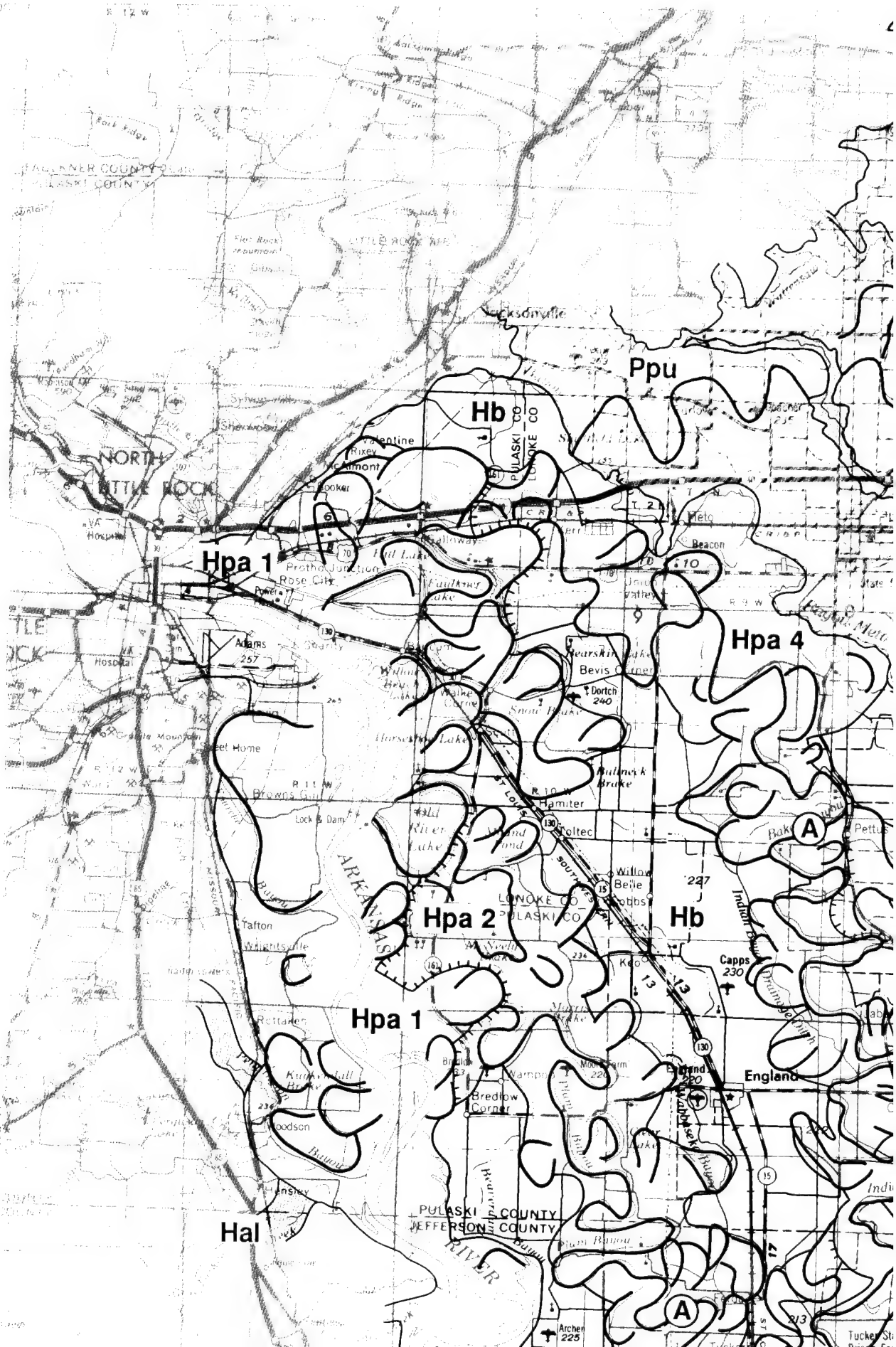


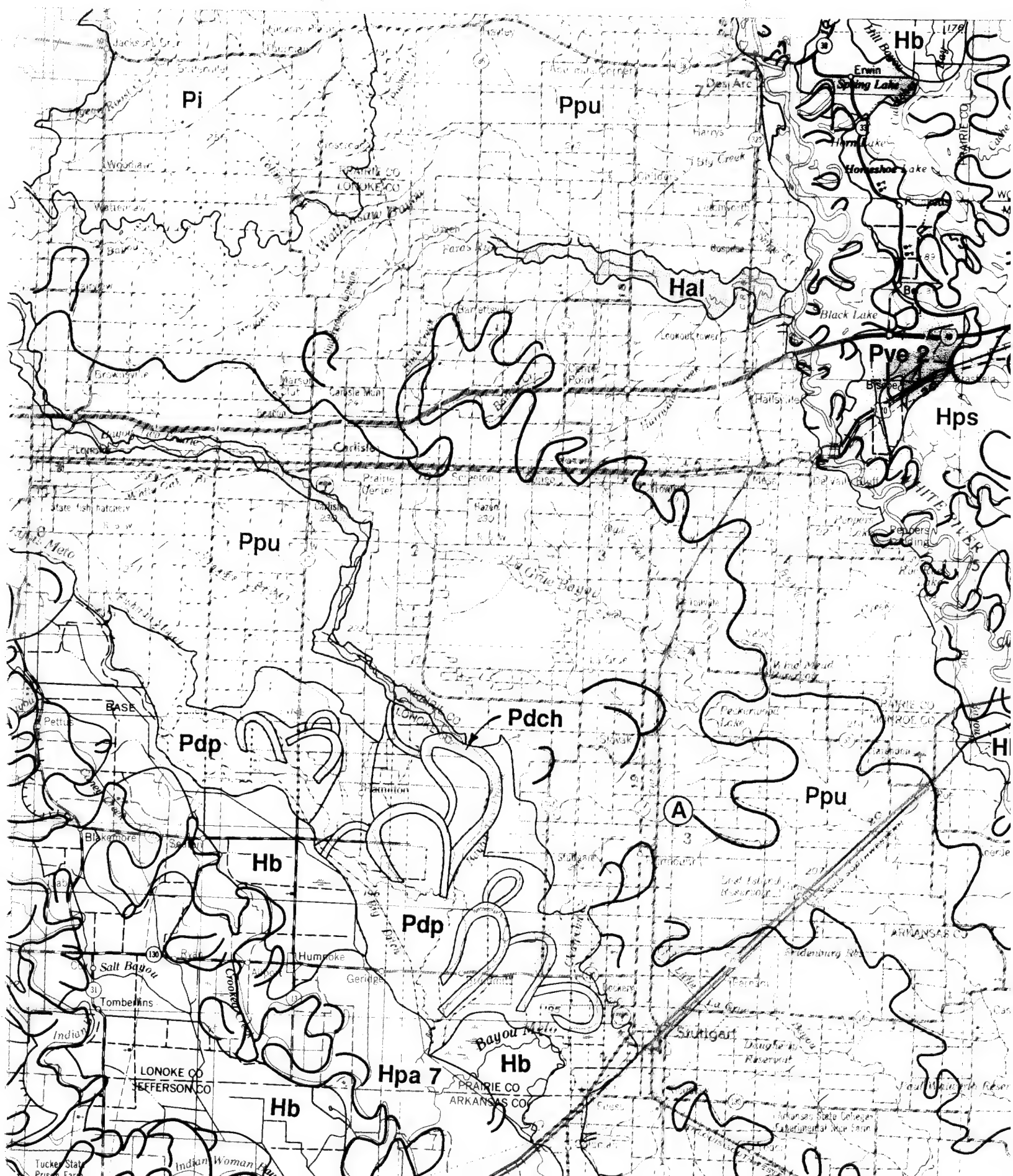
15-00000

R 12 W

15

15-00000









Hpm 1

Hpm 1

Hchm

Hpm 1

Hb

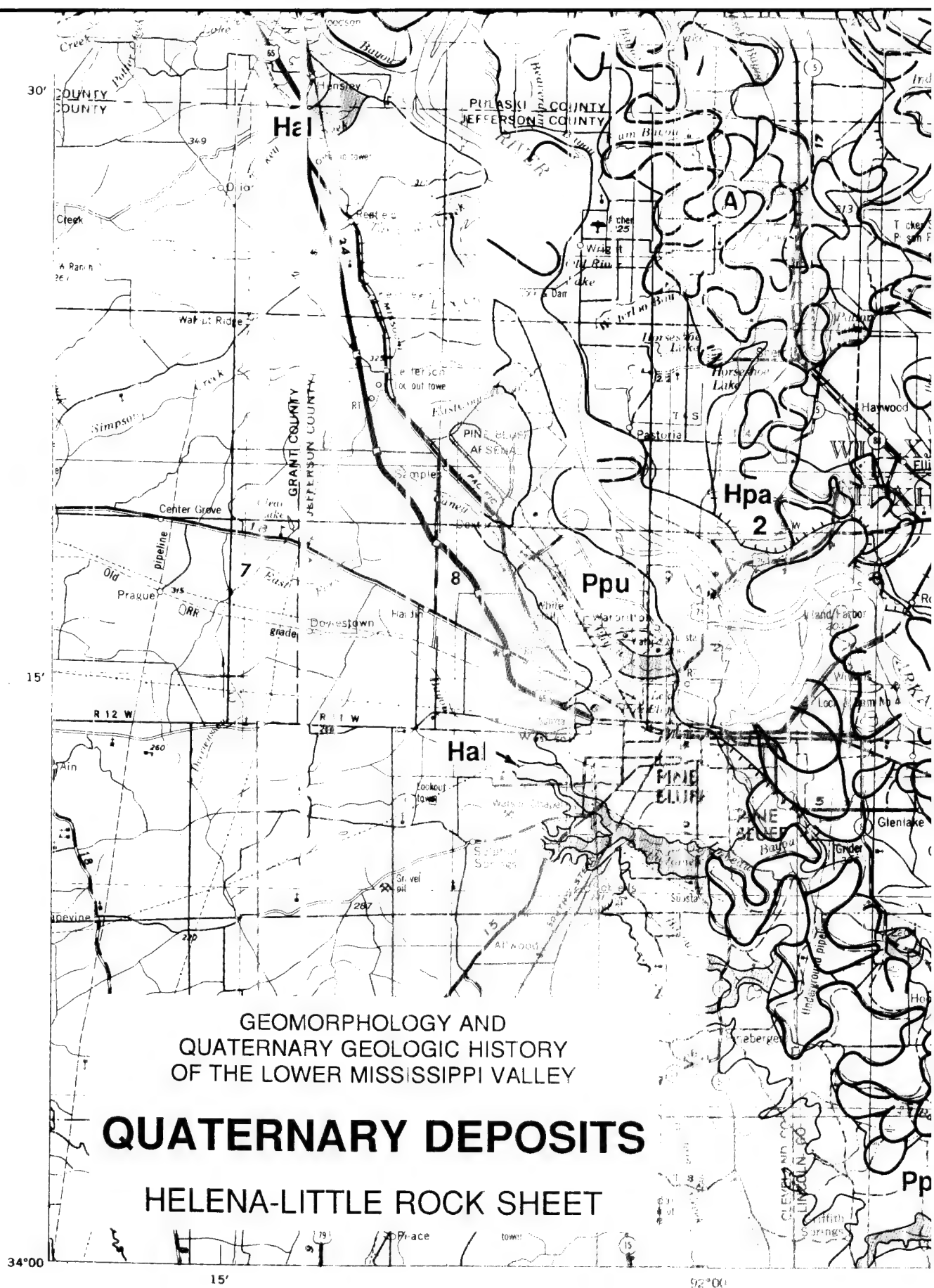
Hpm 5

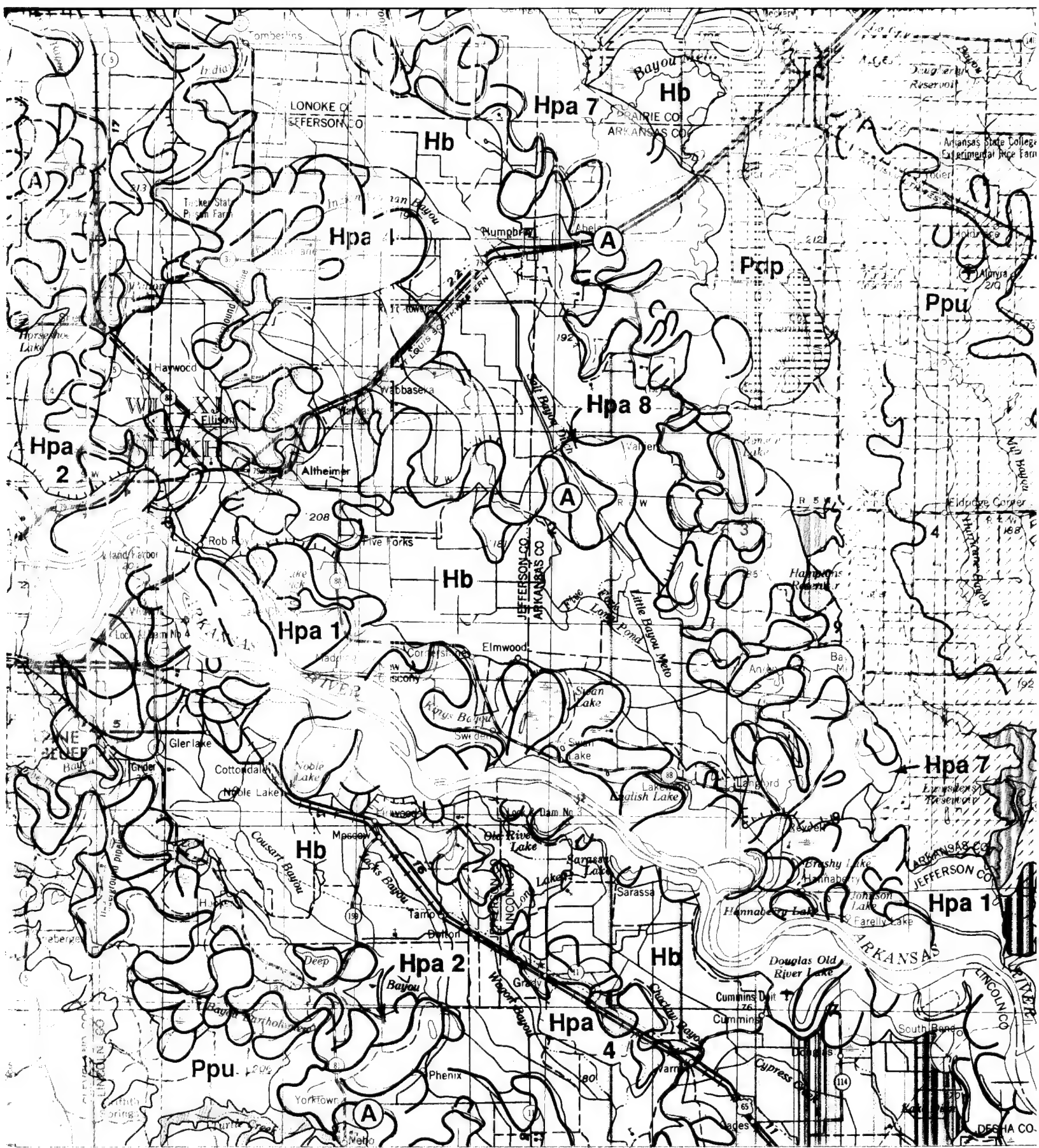
Hpm 1

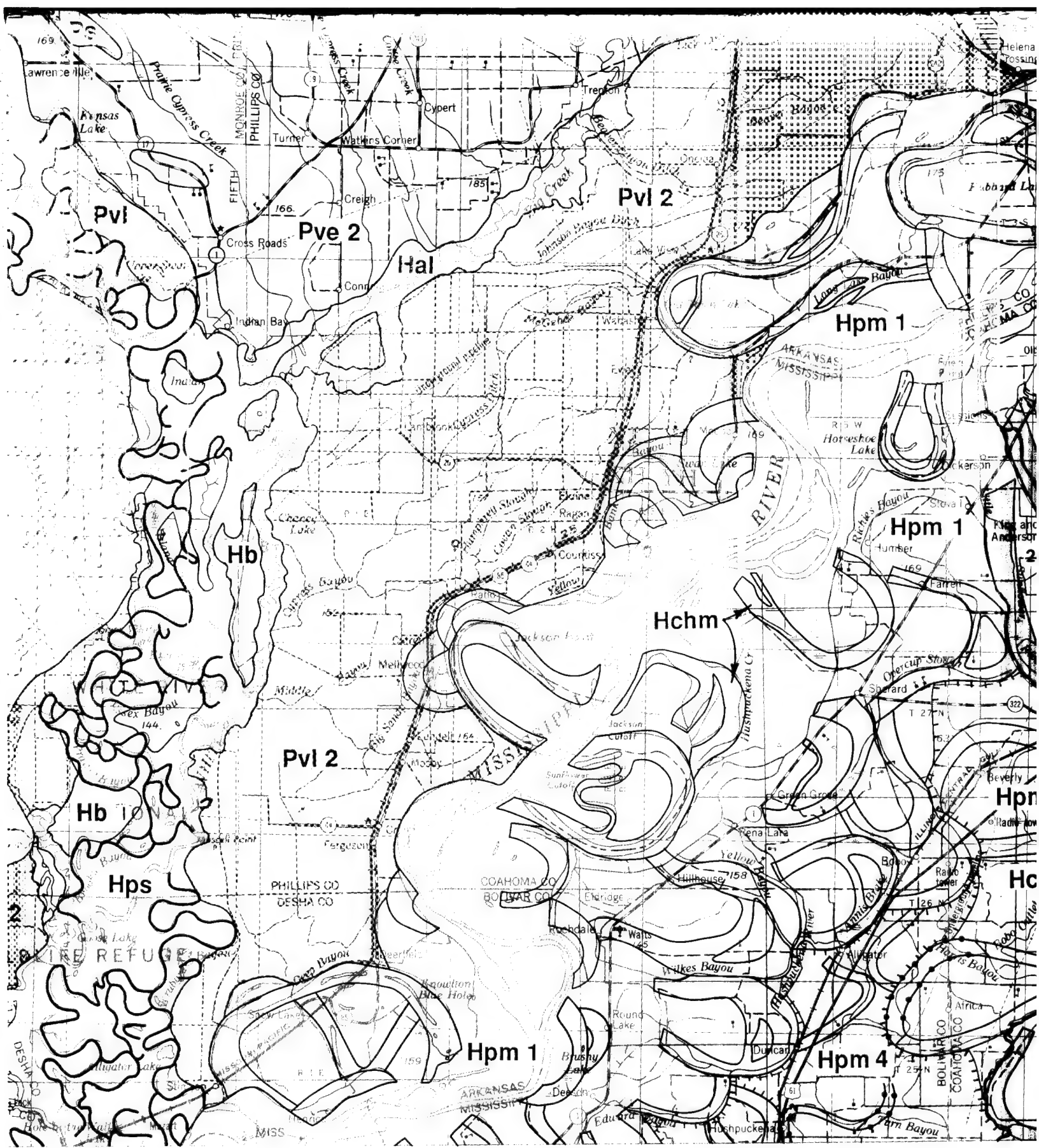
Hpm 5

Hpm

6







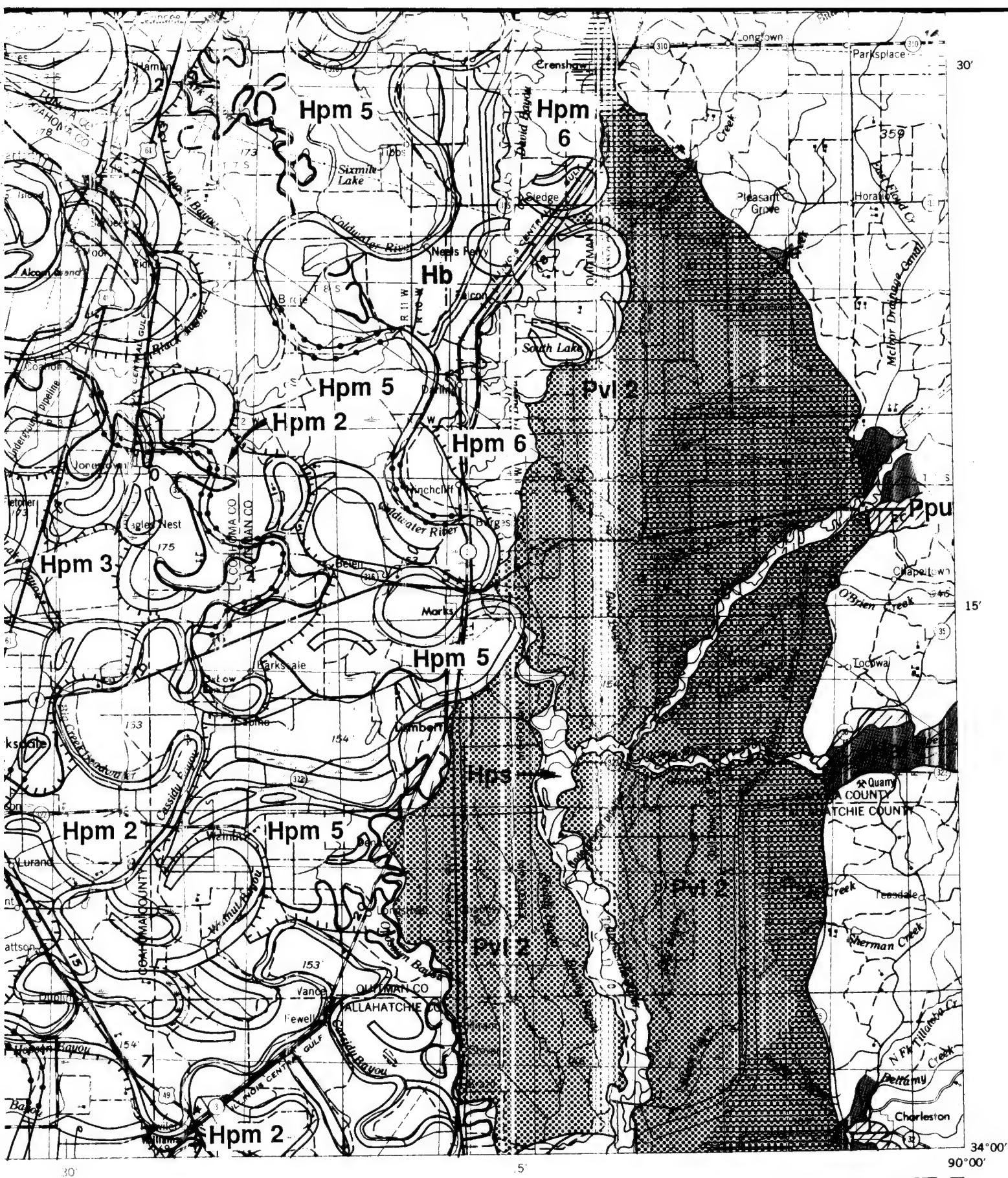
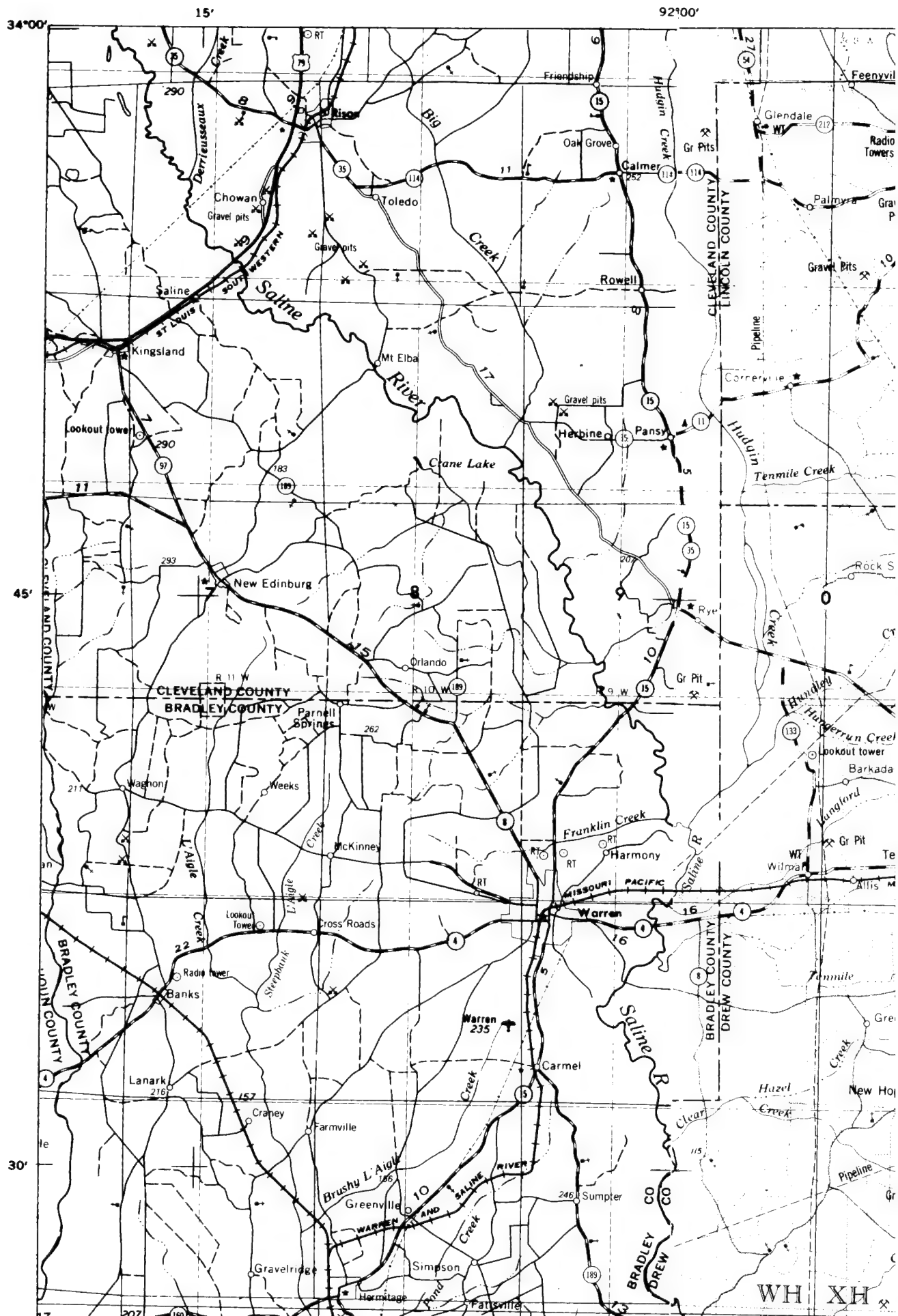
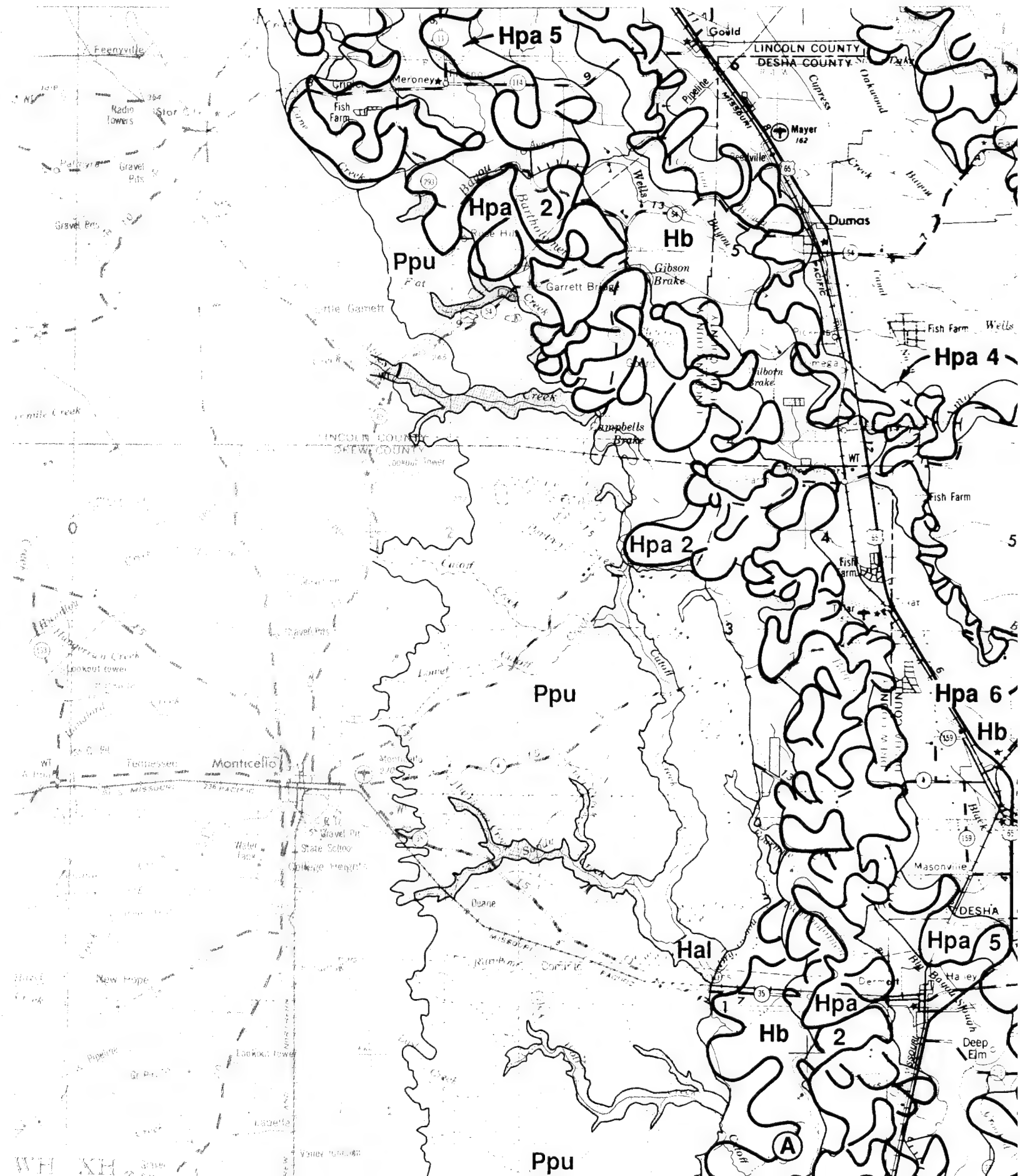
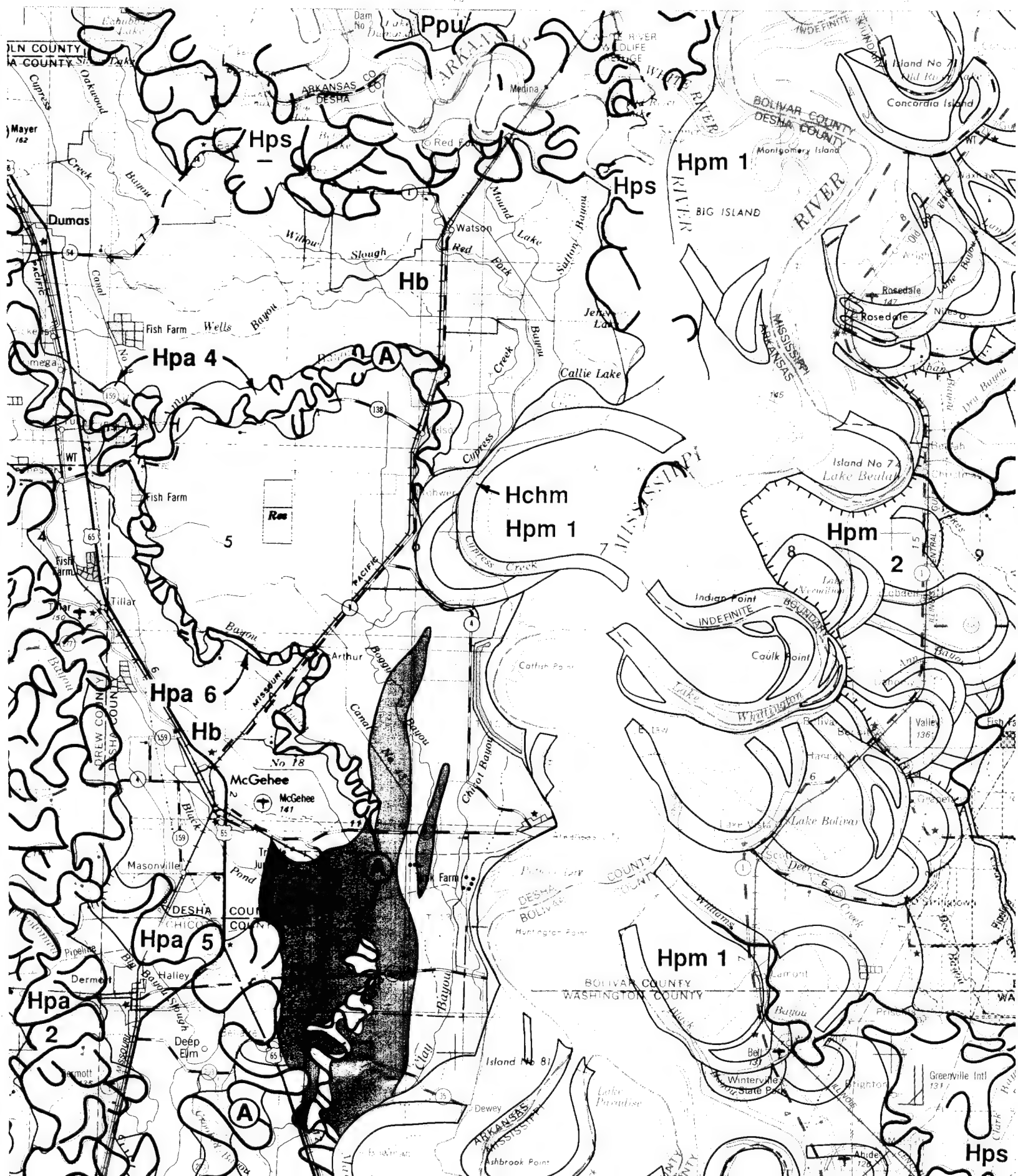
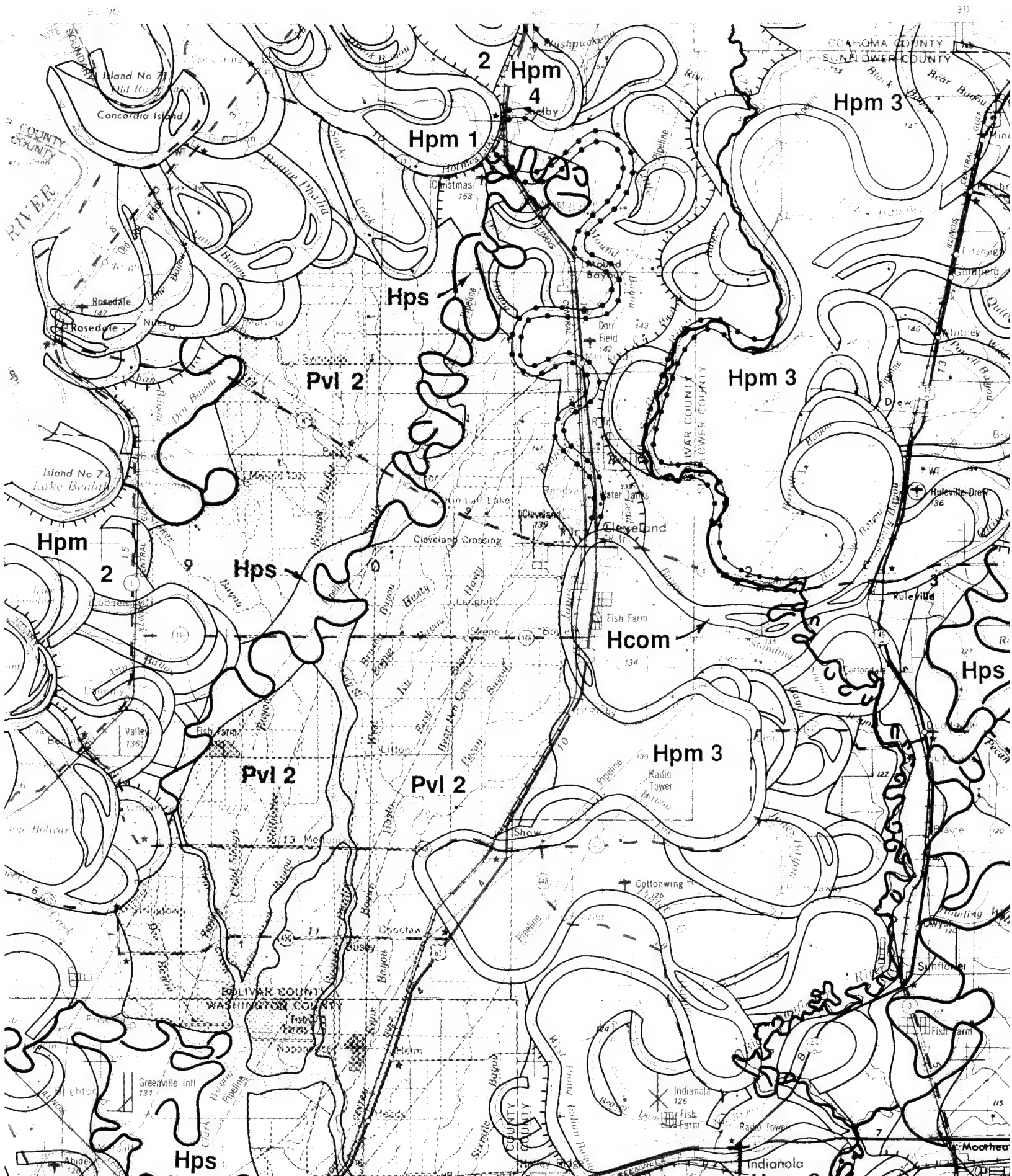


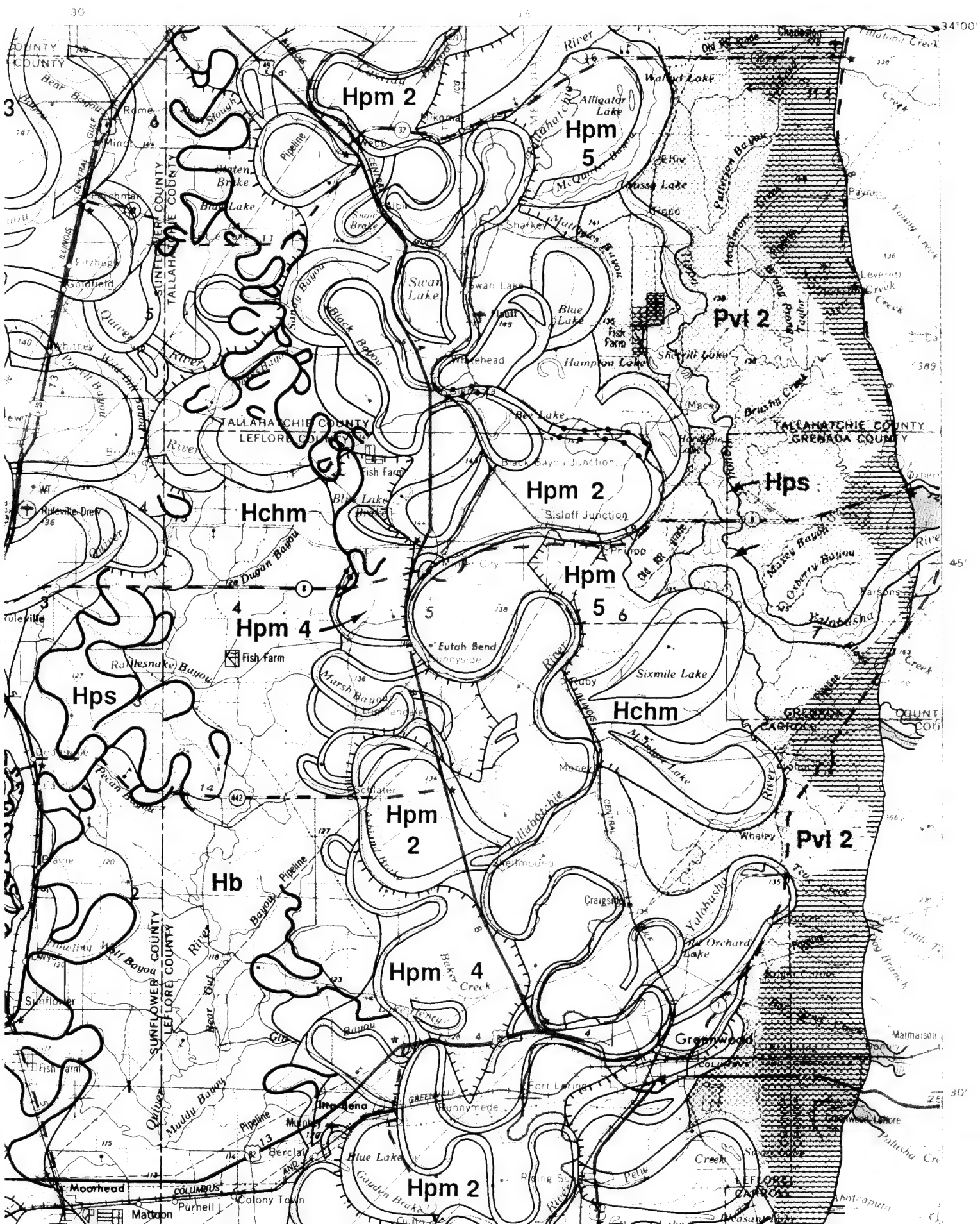
PLATE 7

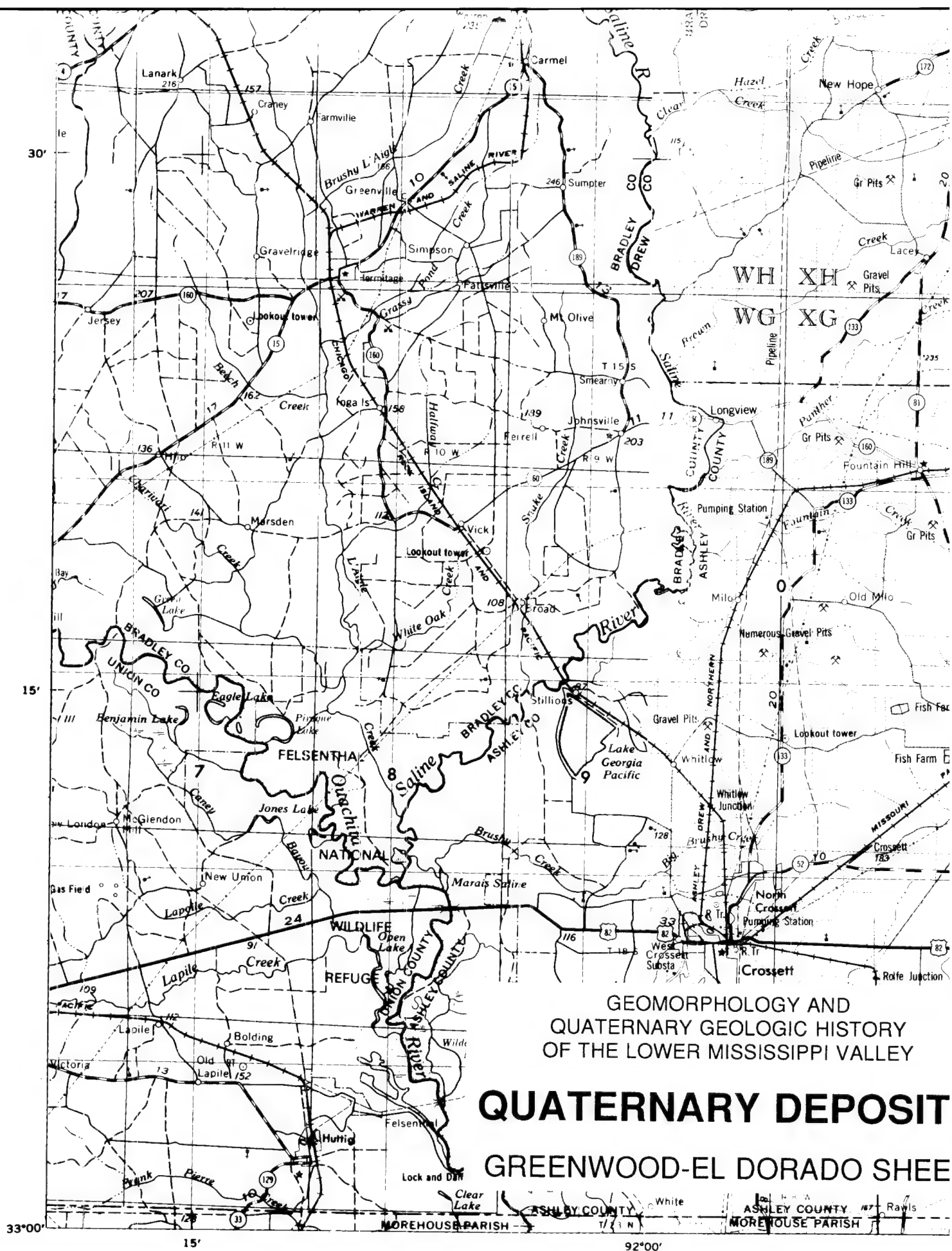


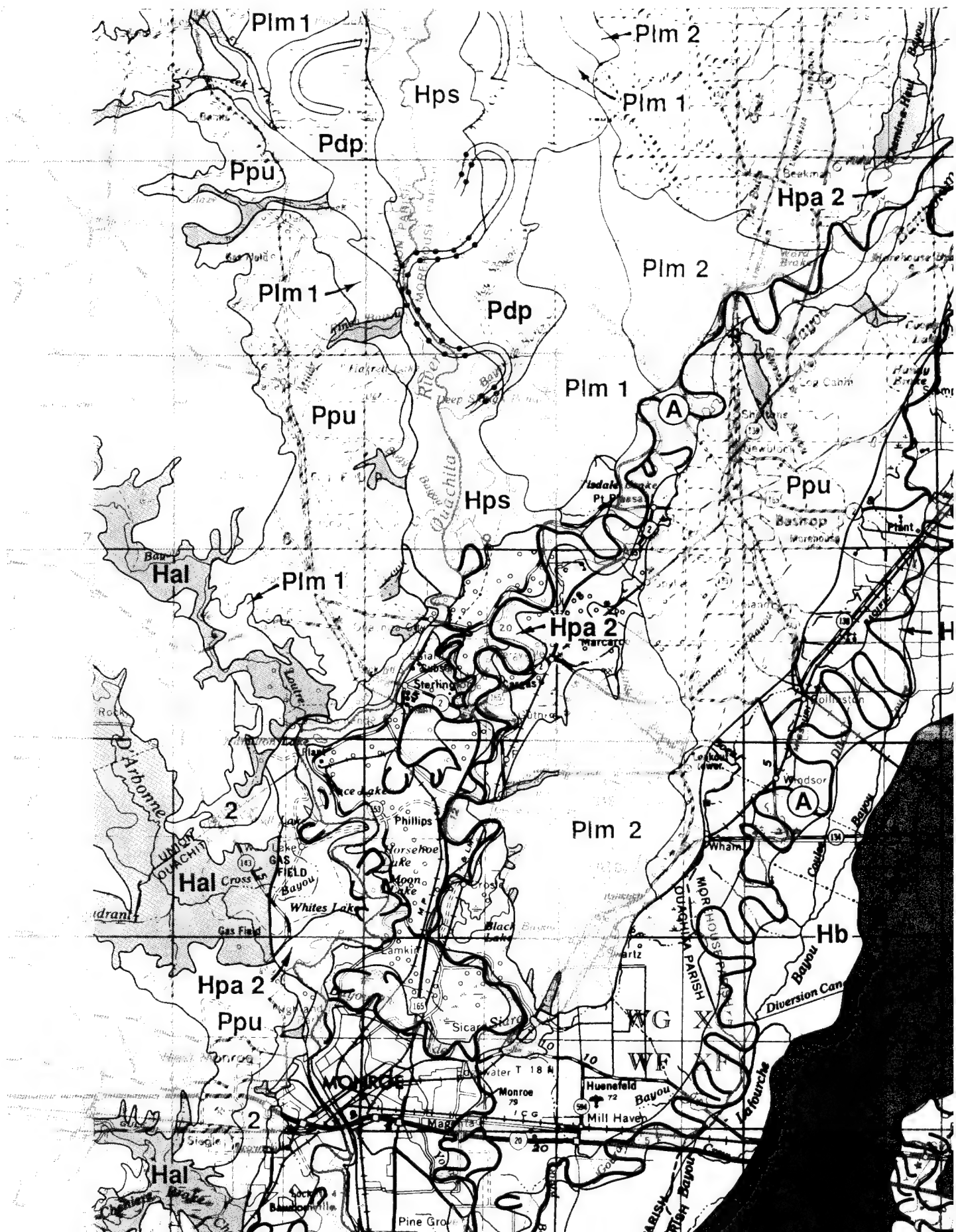


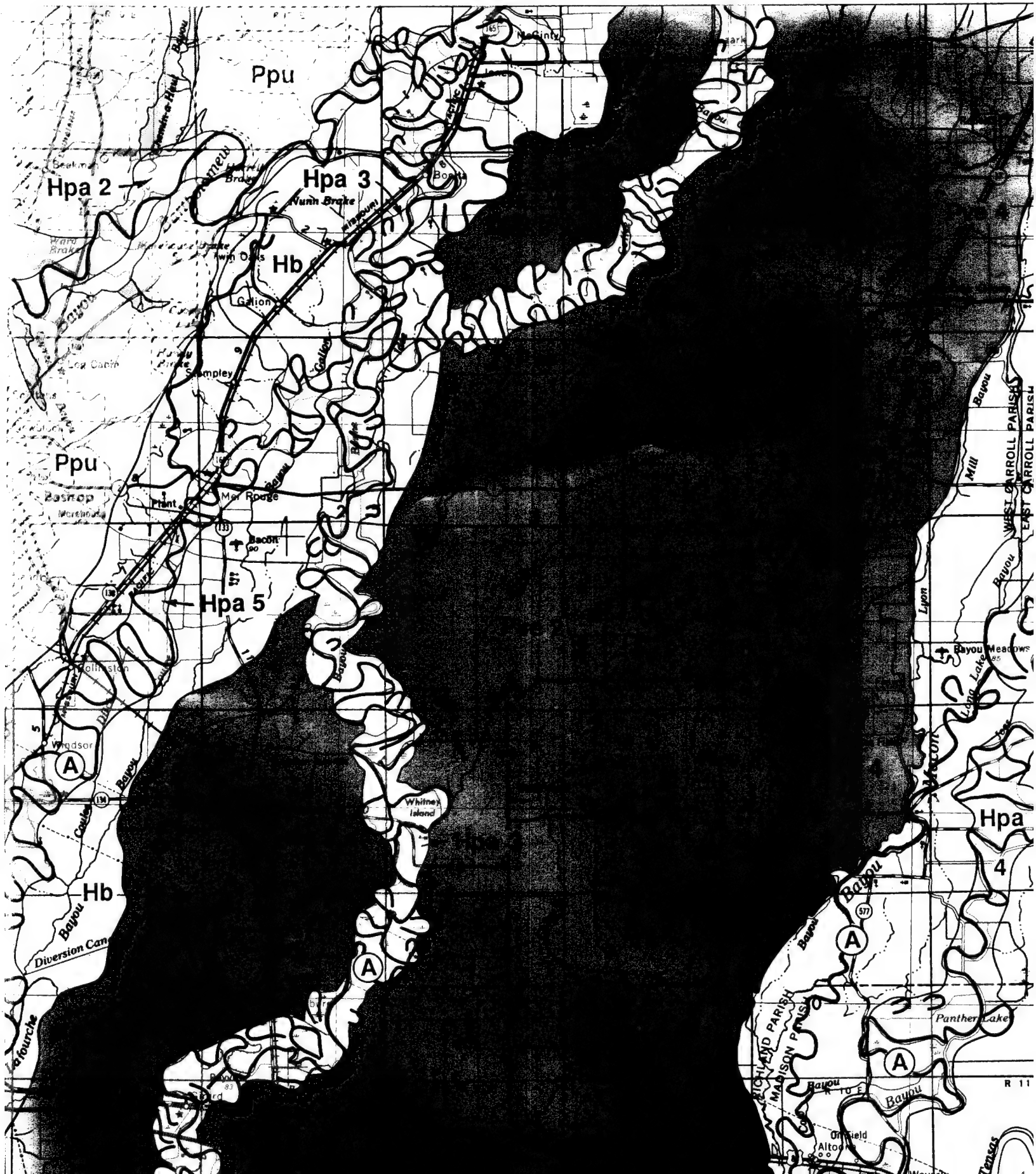


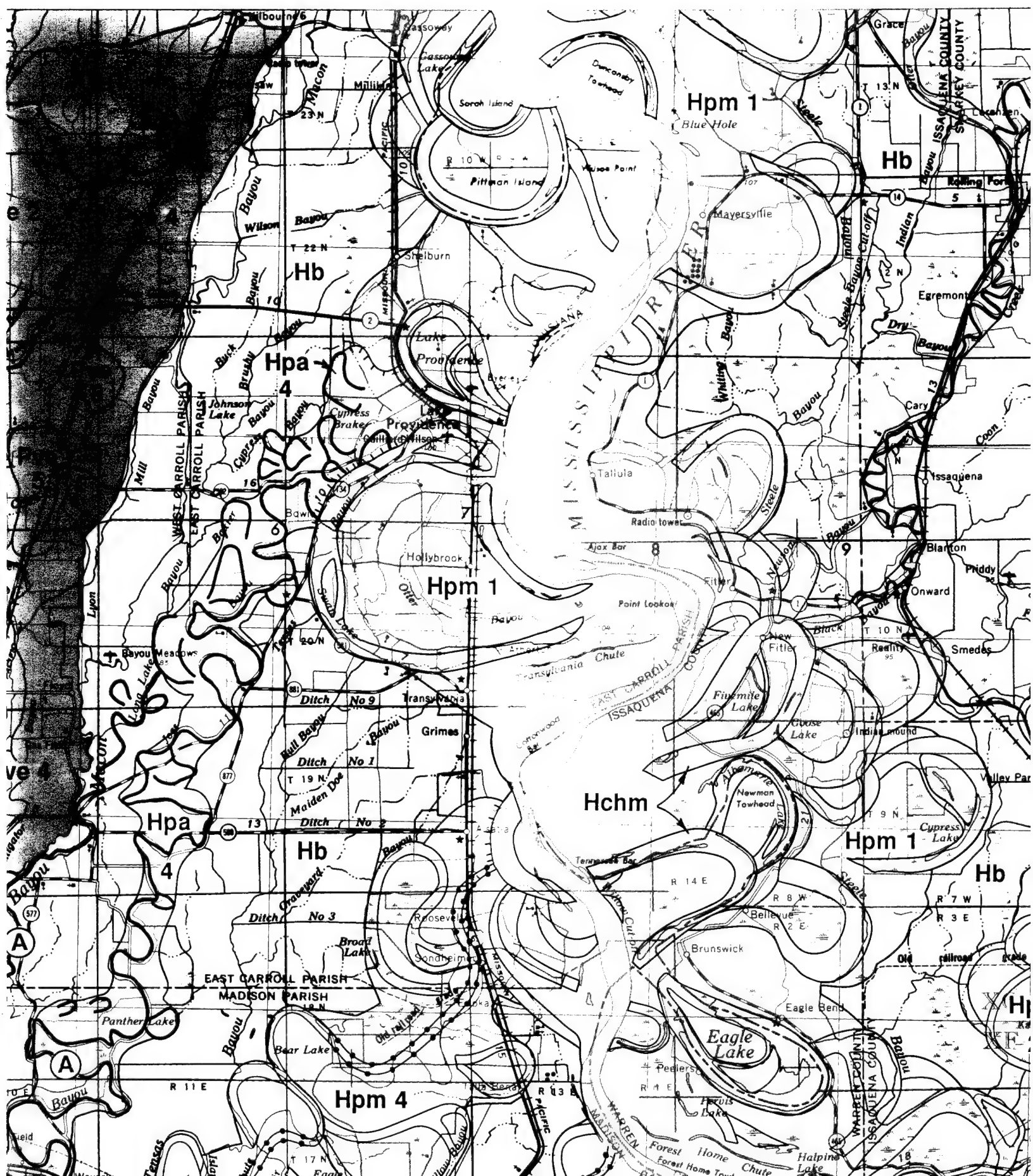


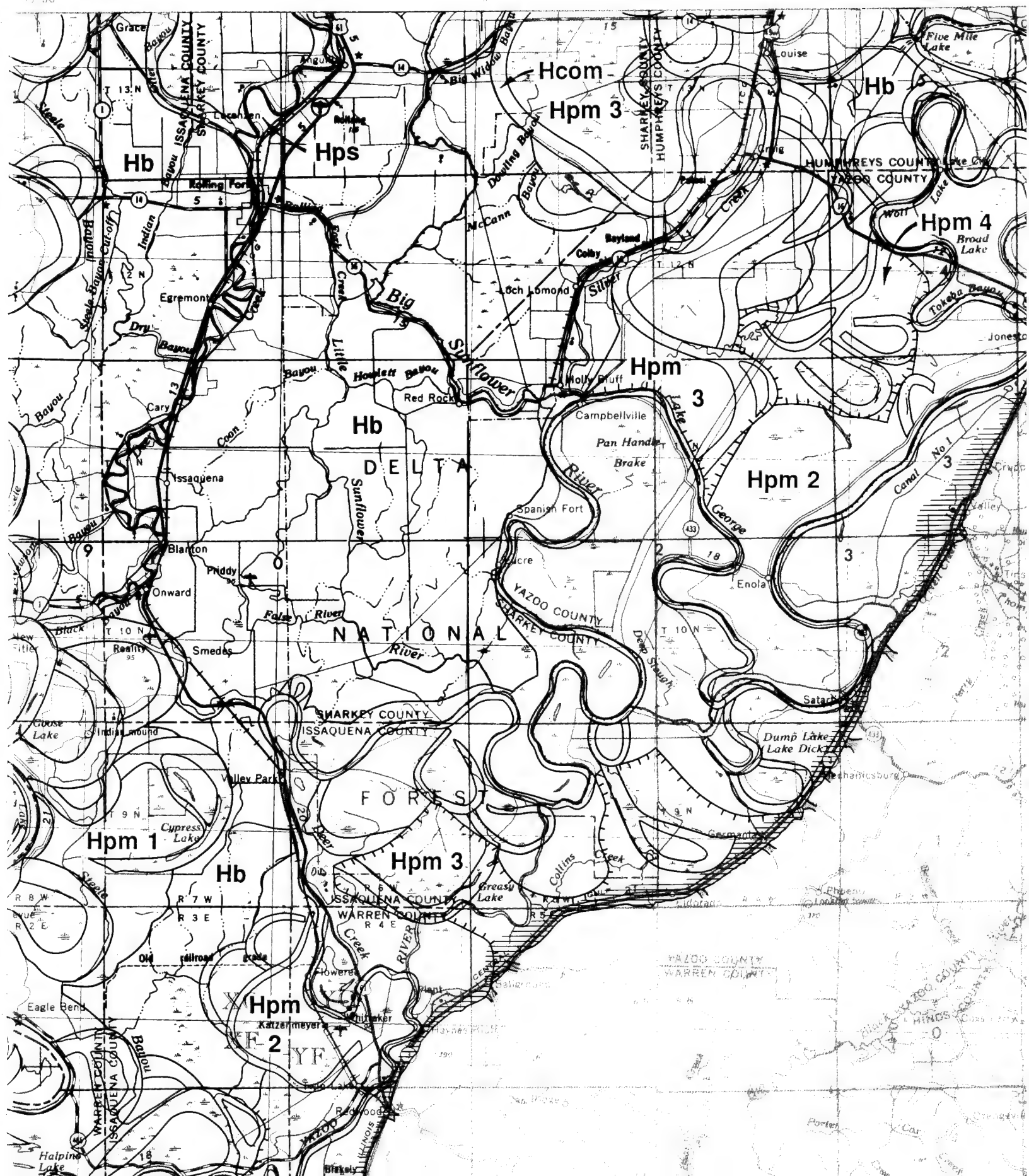








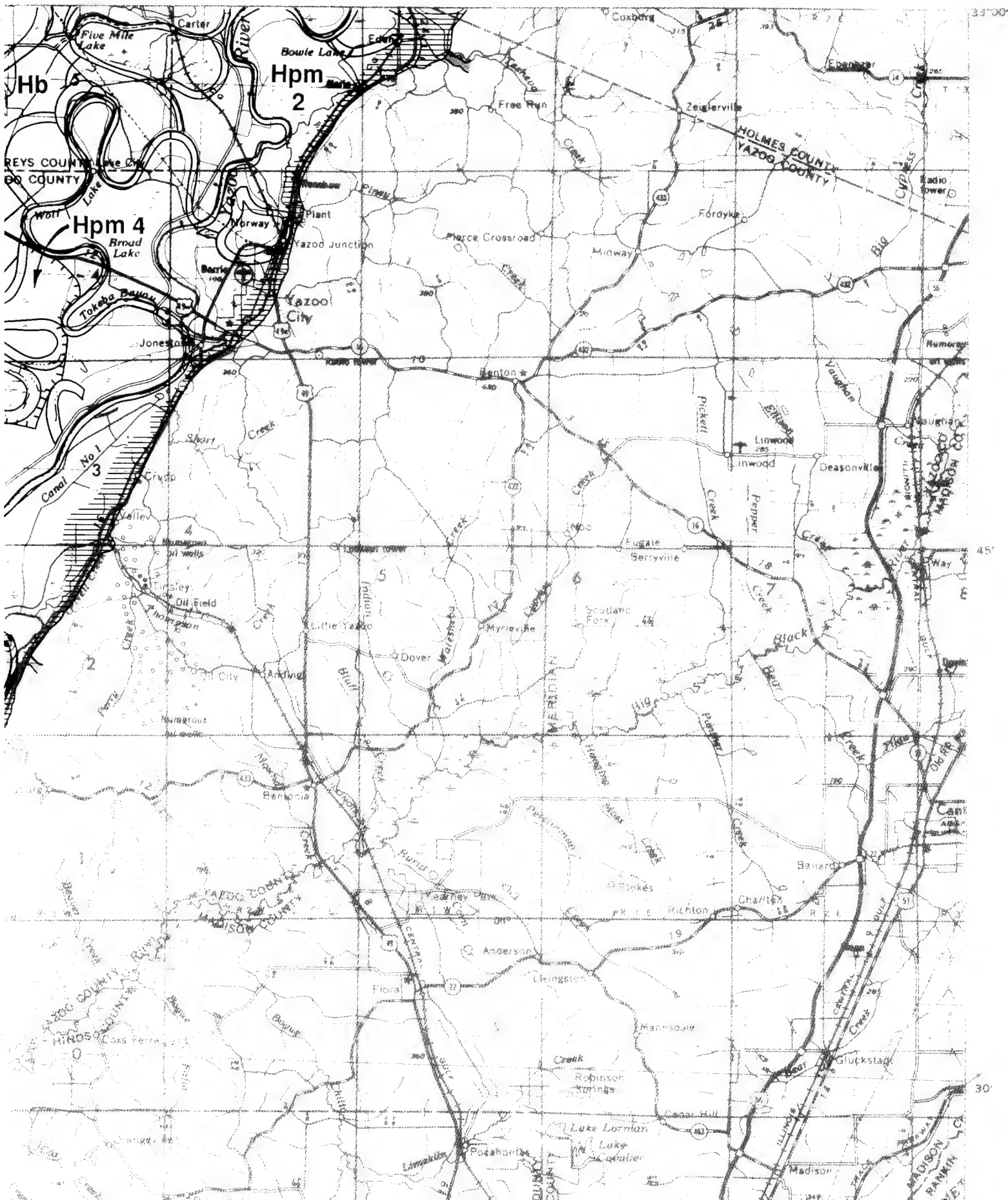


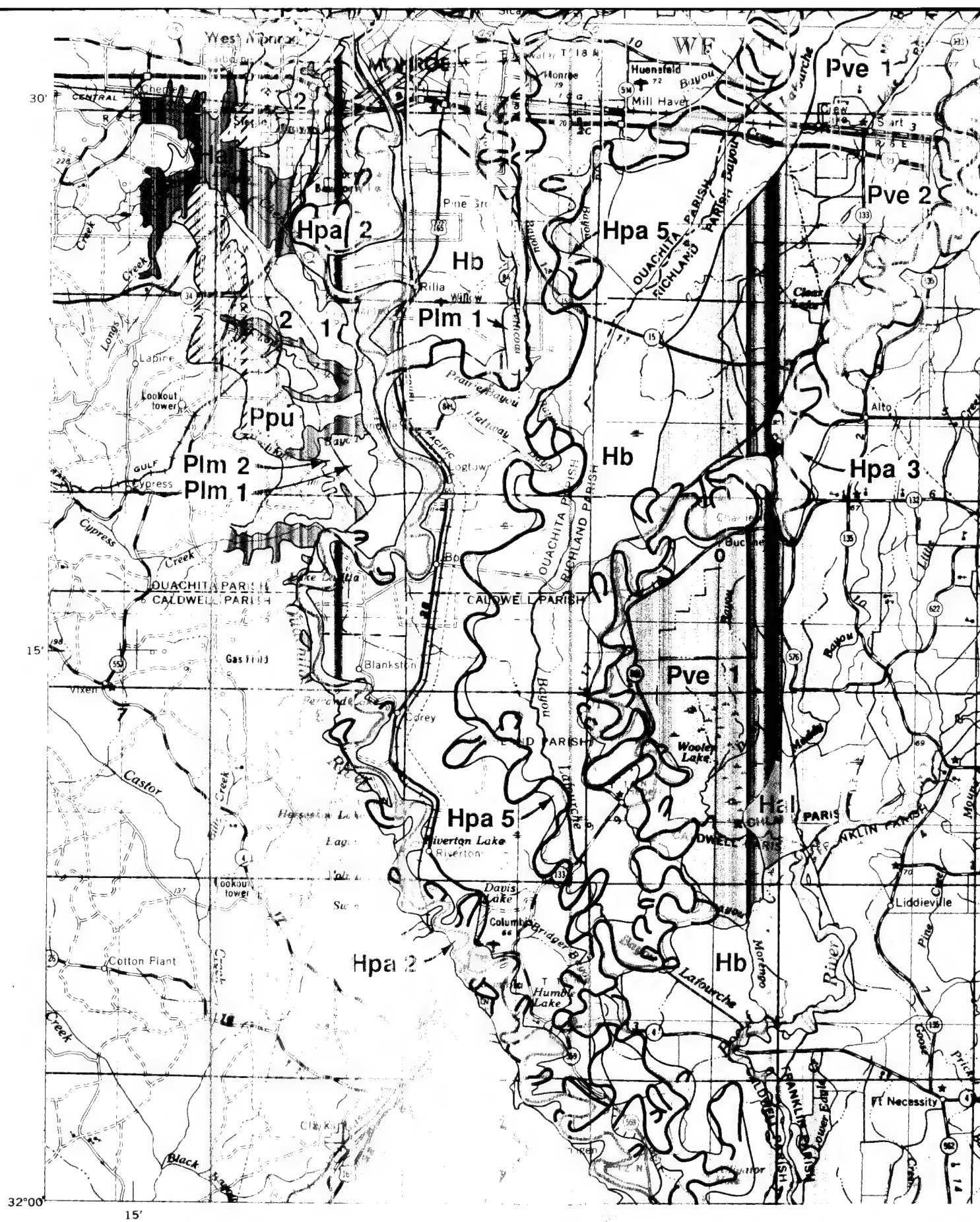


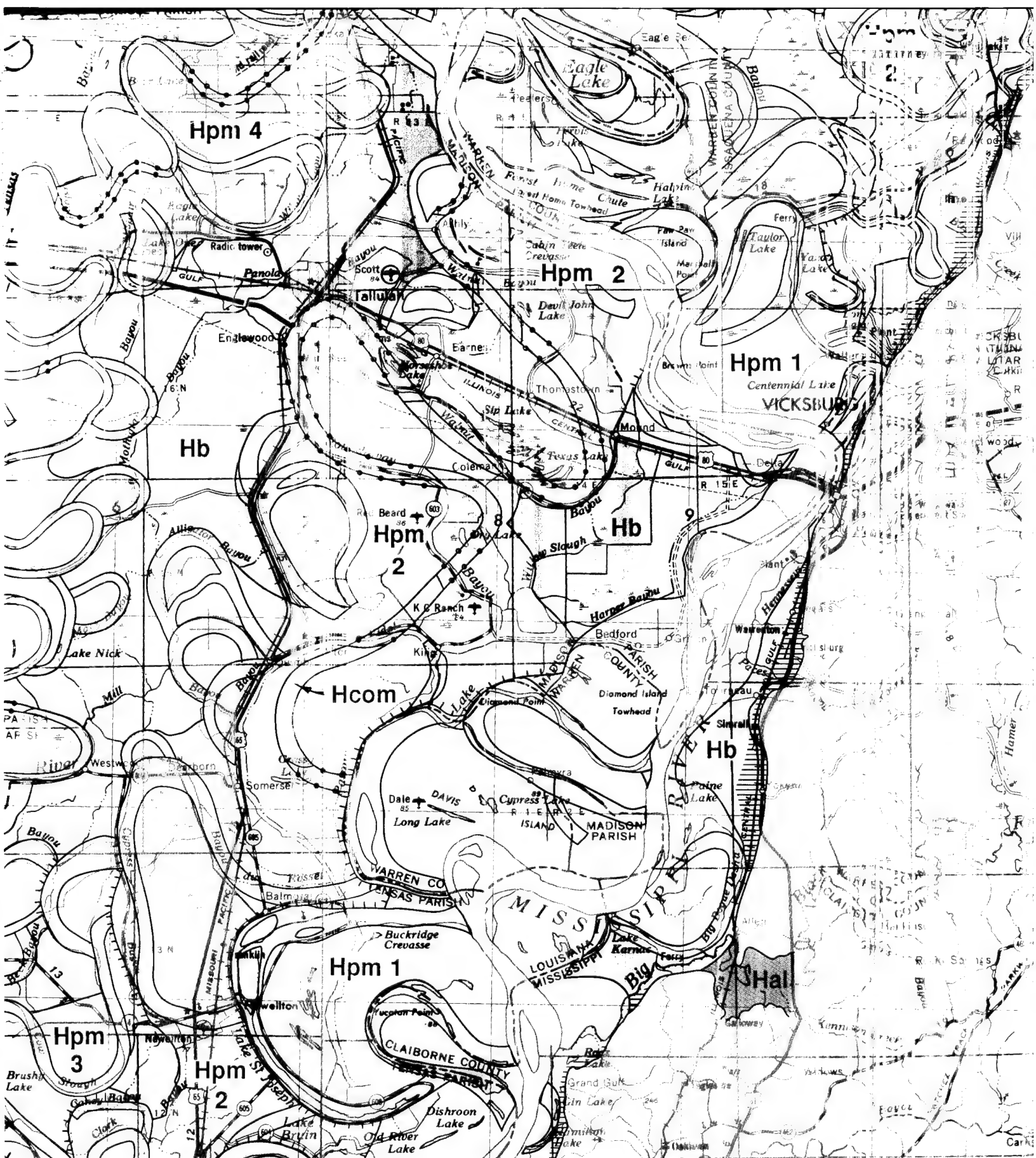
30°

15

33°00'







Scale 1:250,000

10

15

20 Statute Miles

15

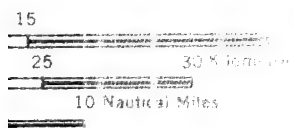
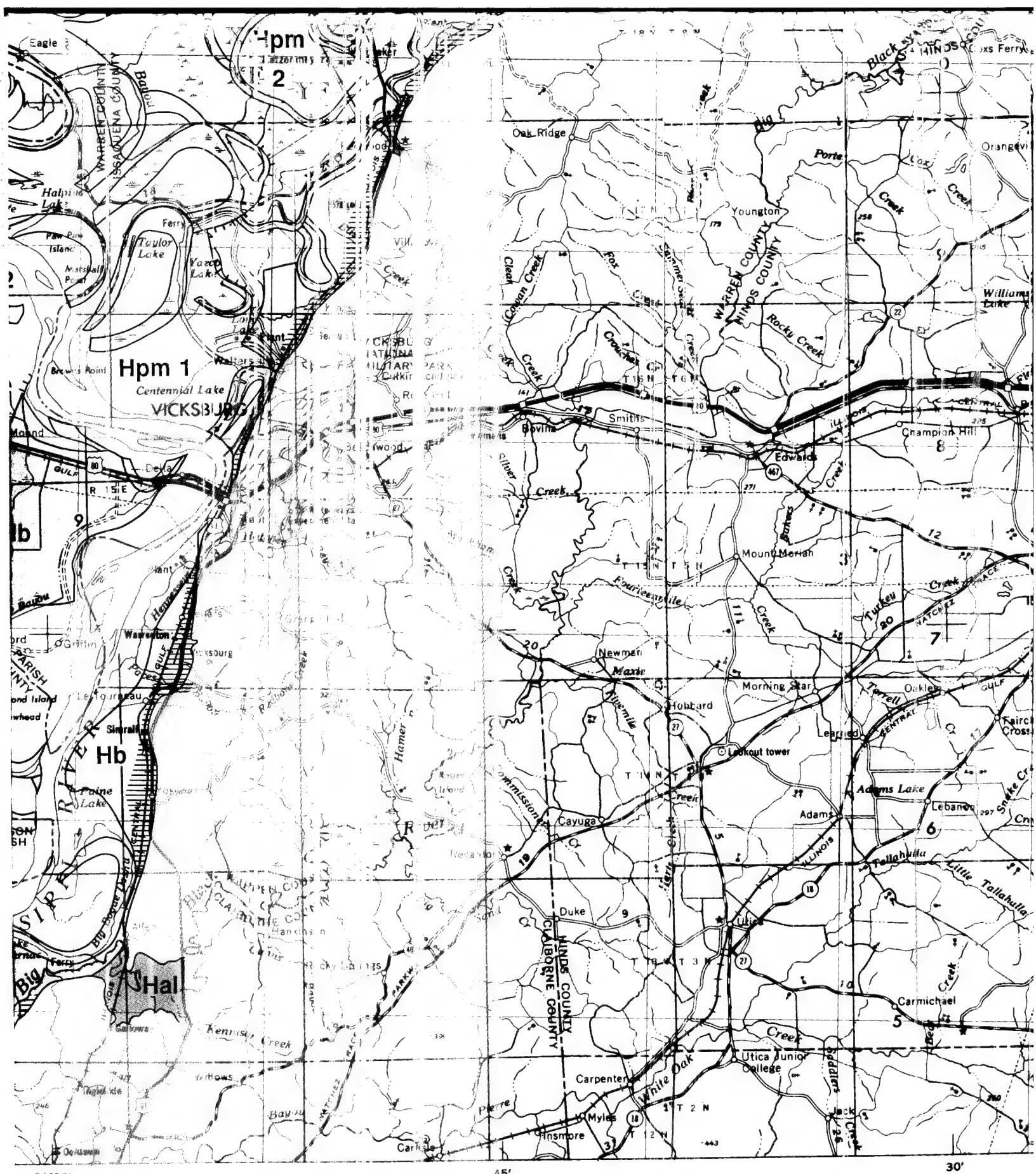
20

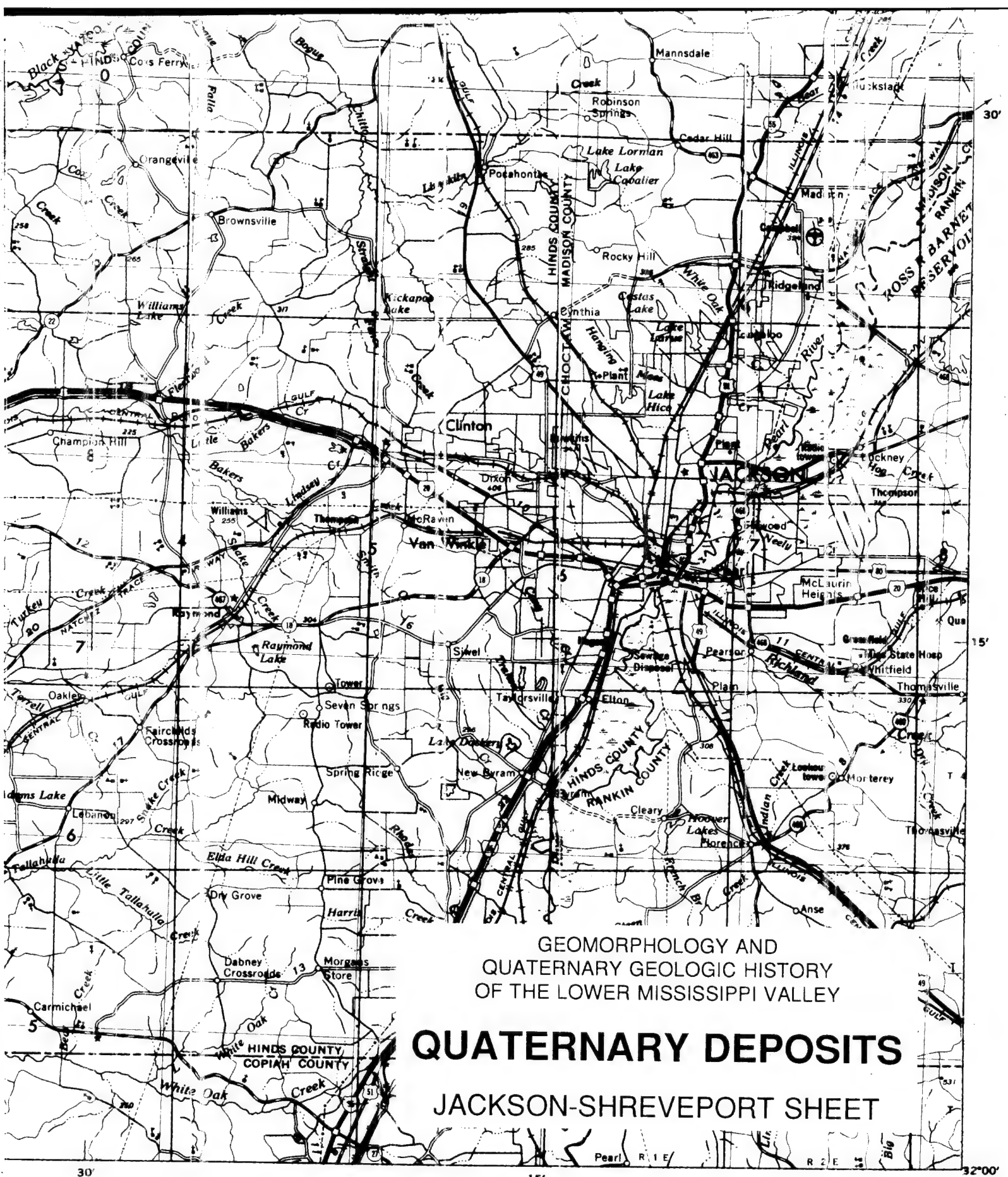
25

30 Kilometres

5

10 Nautical Miles





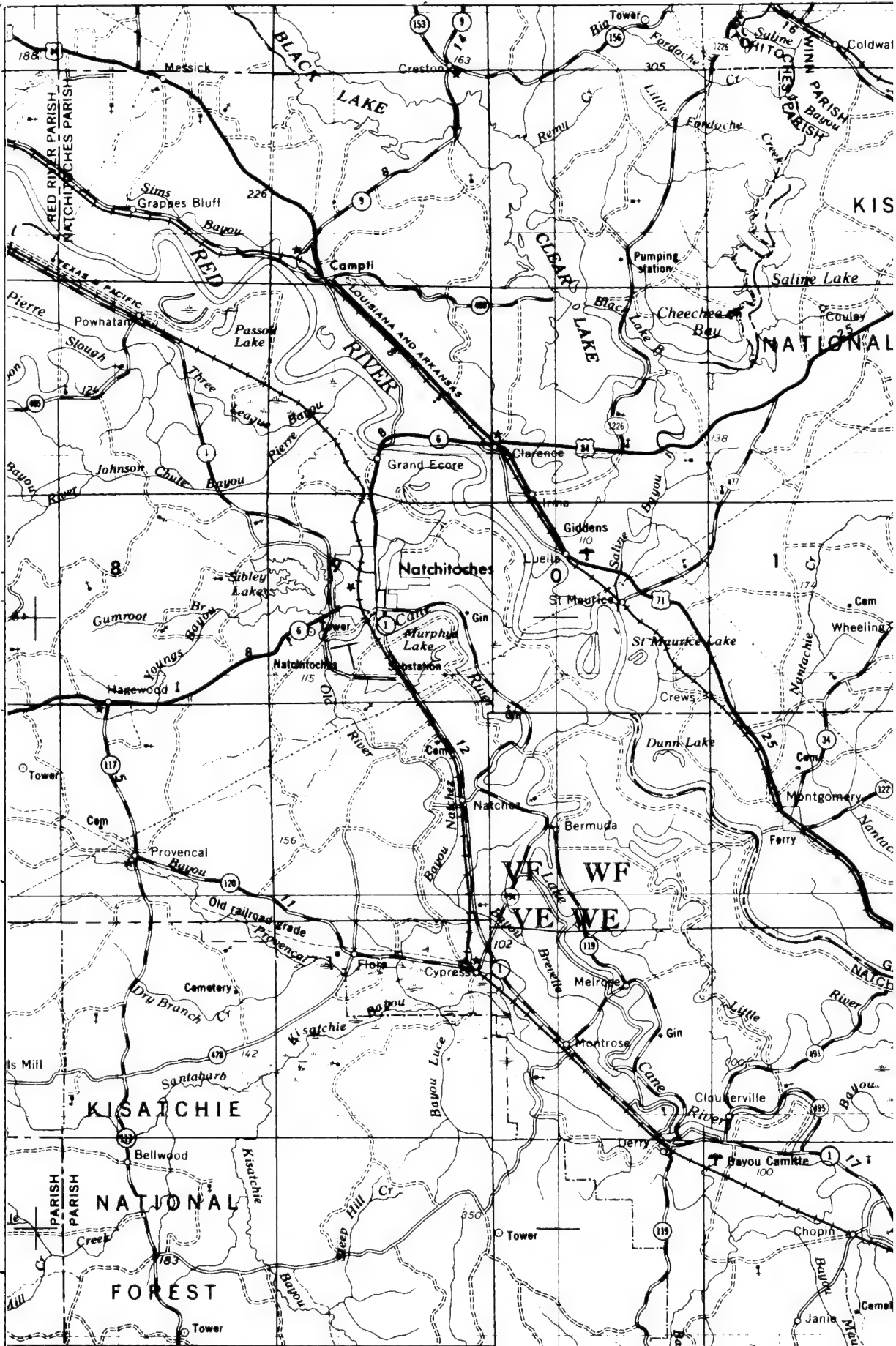
GEOMORPHOLOGY AND
QUATERNARY GEOLOGIC HISTORY
OF THE LOWER MISSISSIPPI VALLEY

QUATERNARY DEPOSITS

JACKSON-SHREVEPORT SHEET

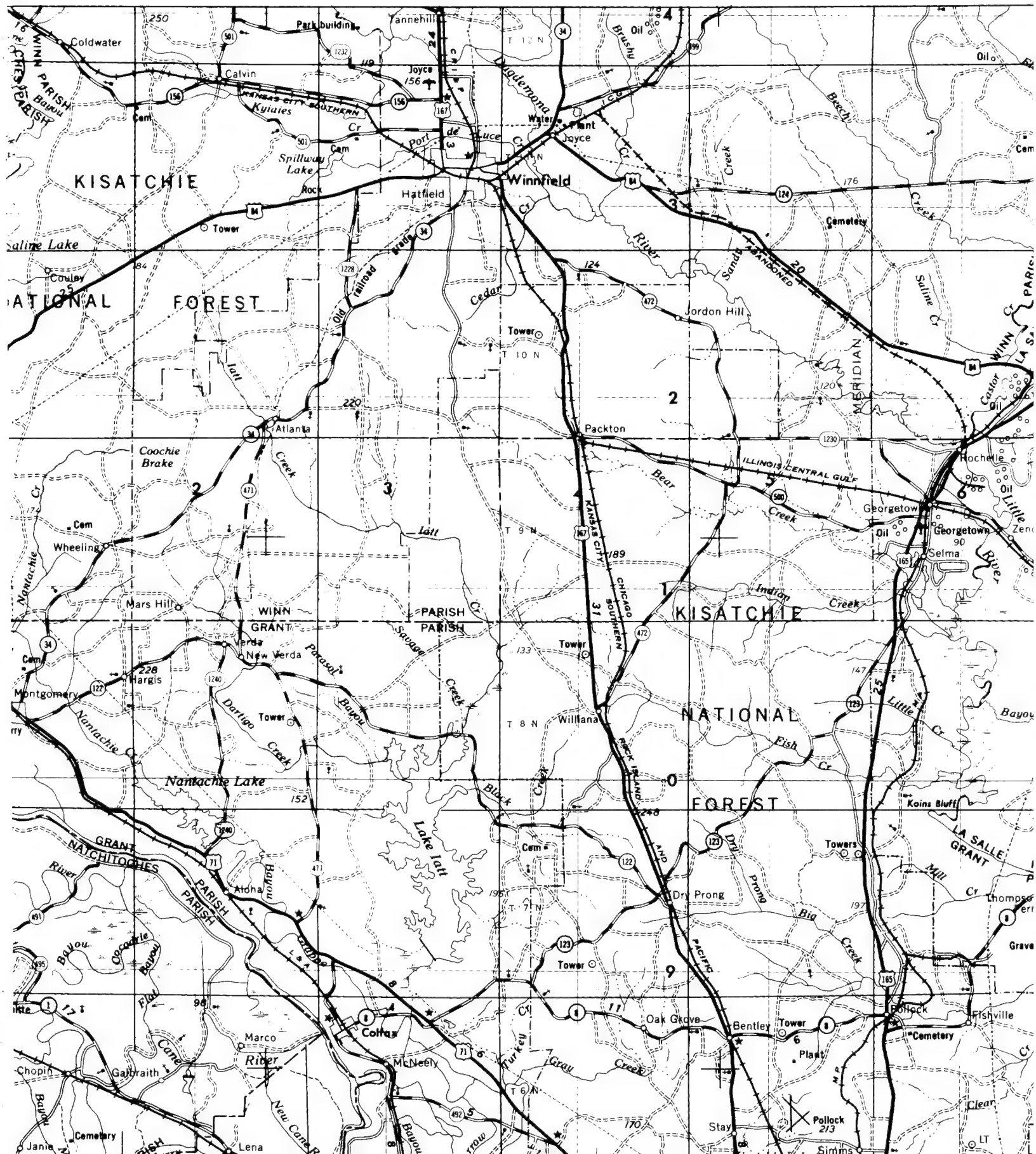
32°00'

93°00'



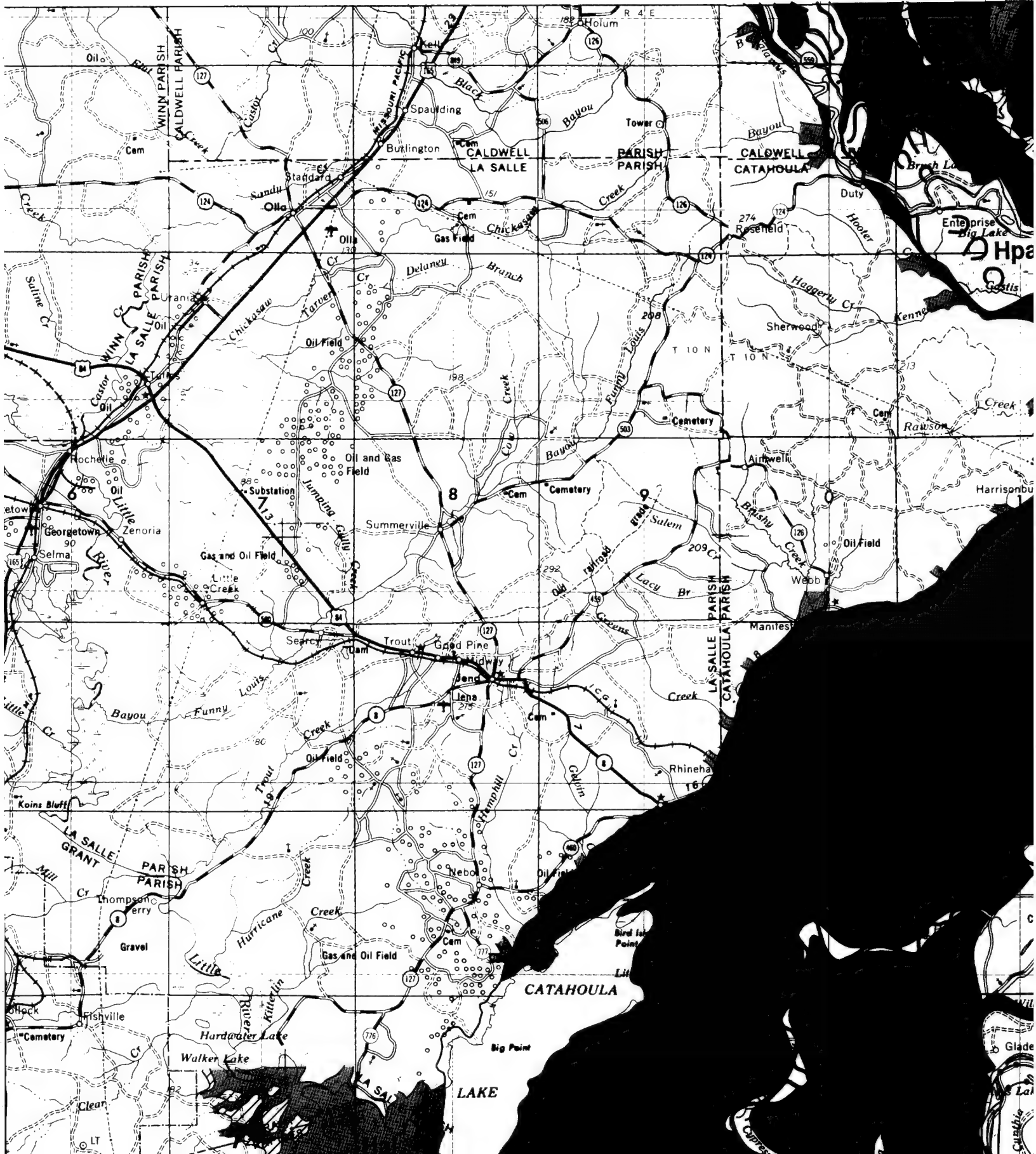
45'

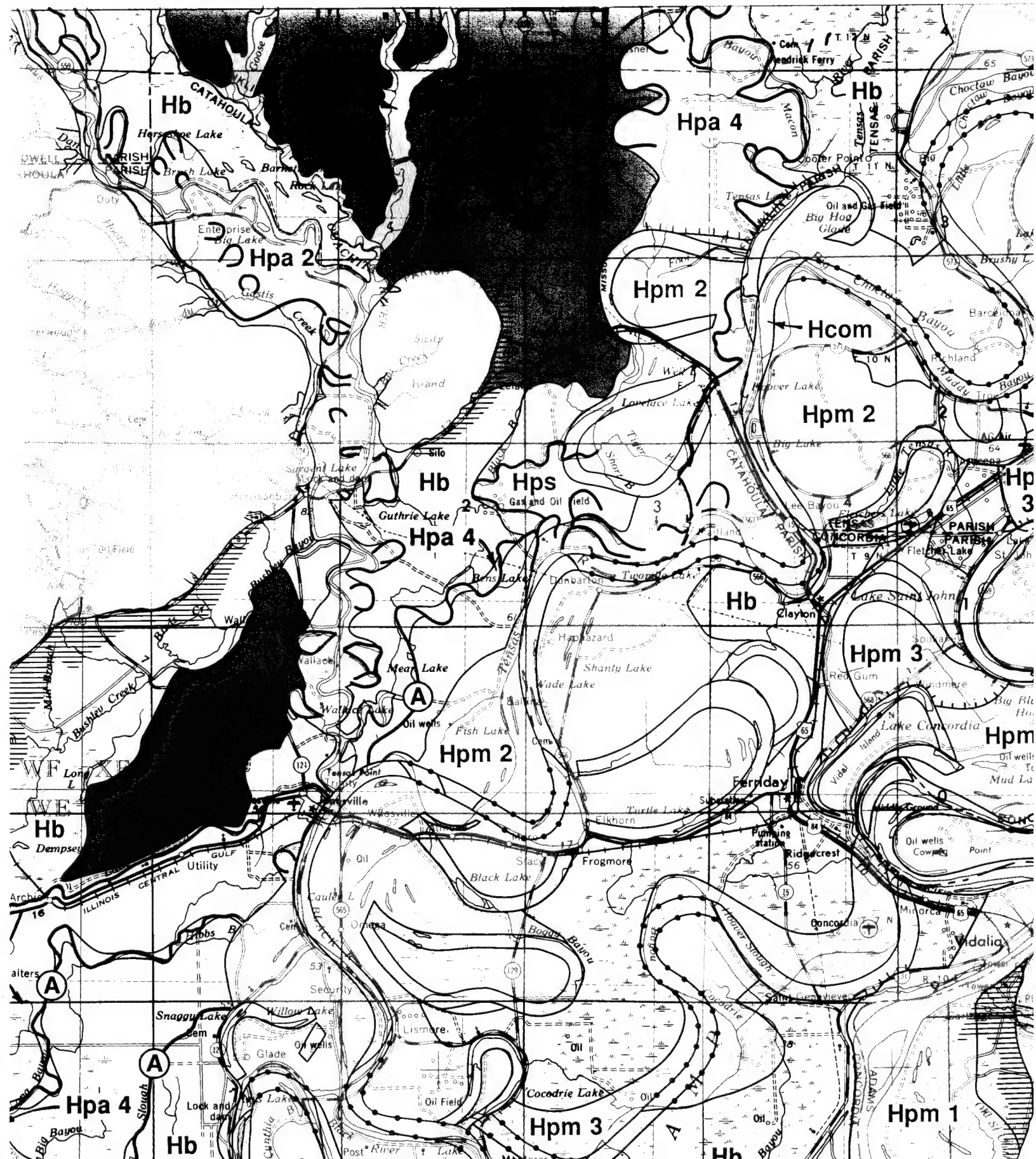
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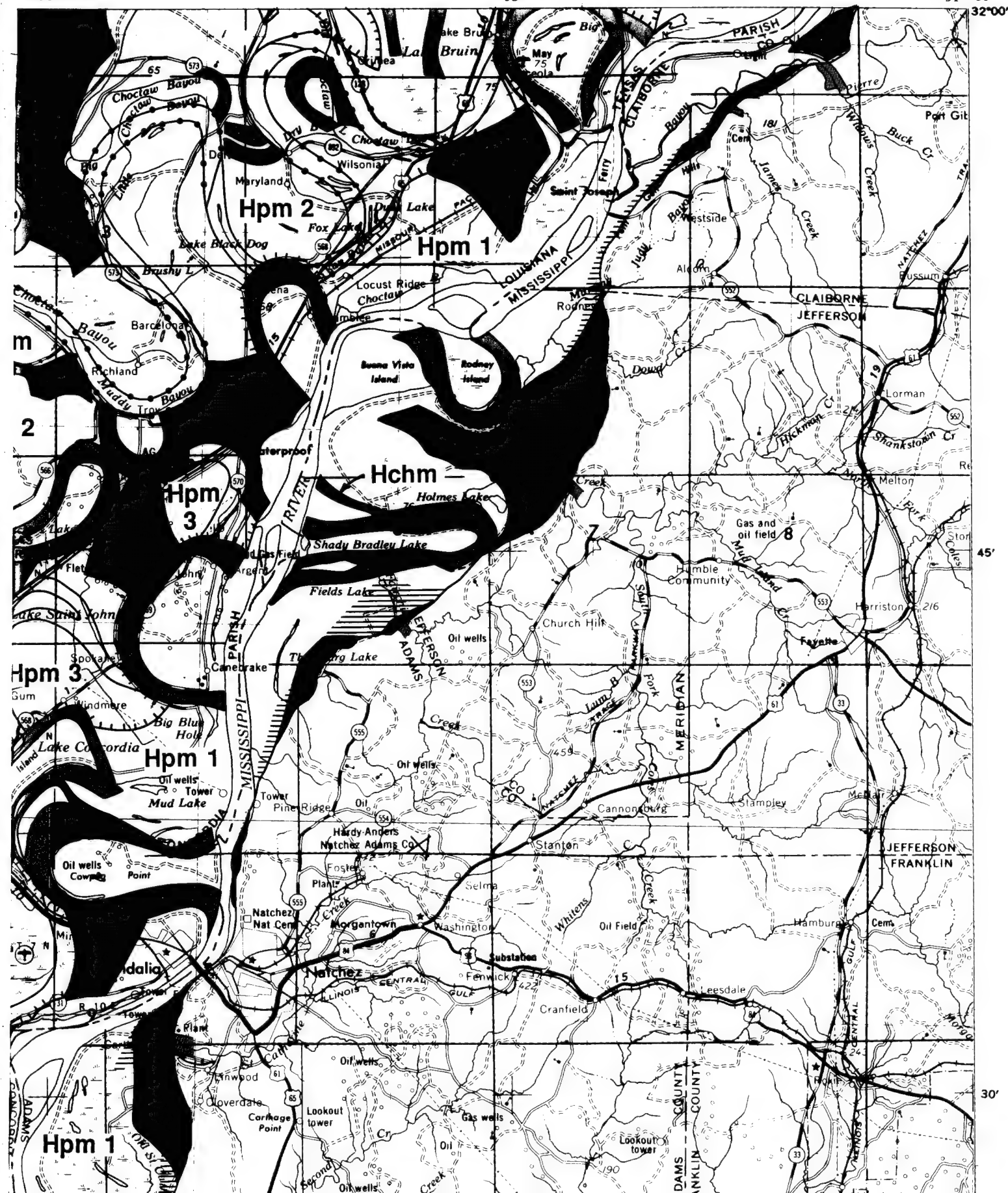
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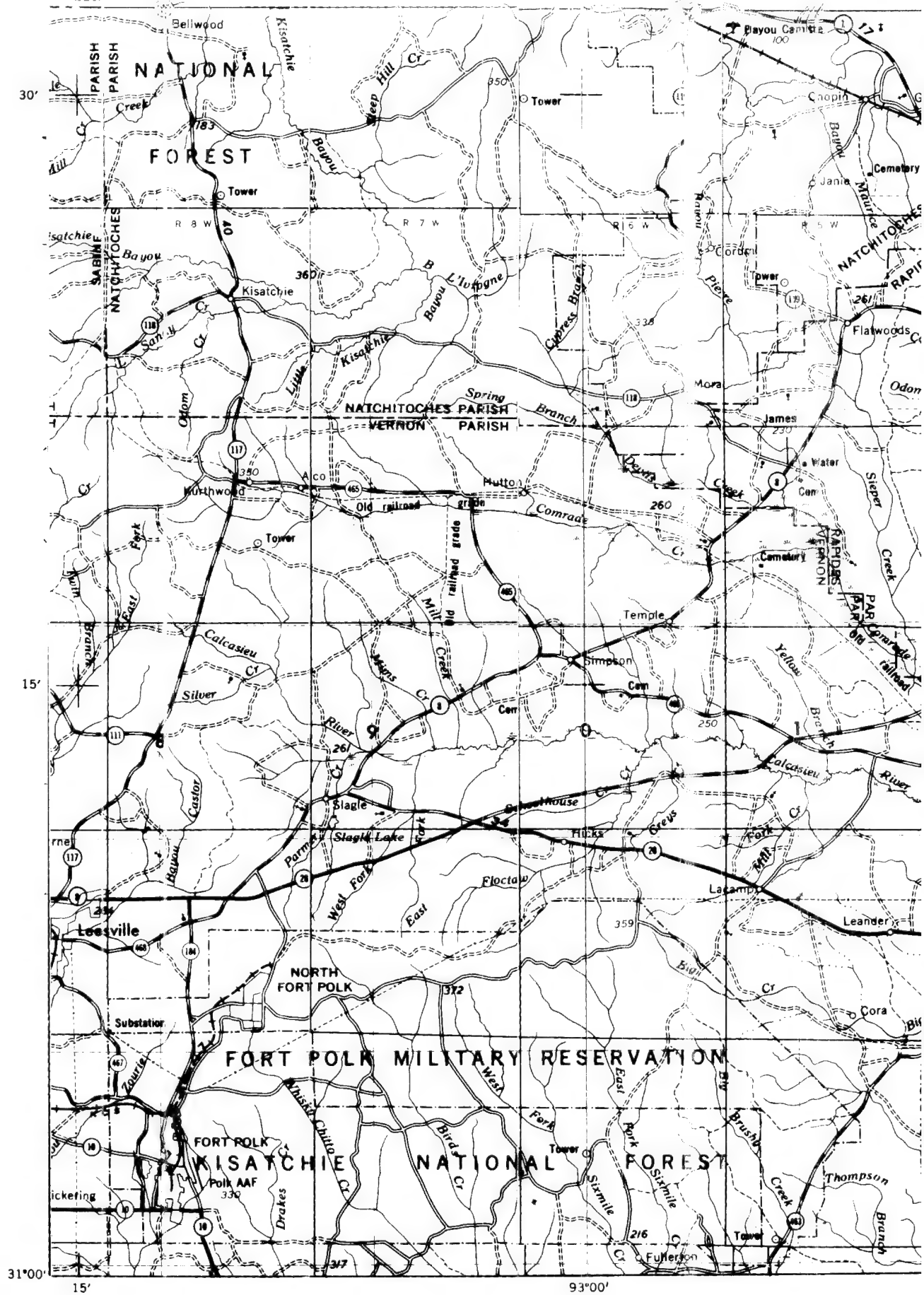
92°00'

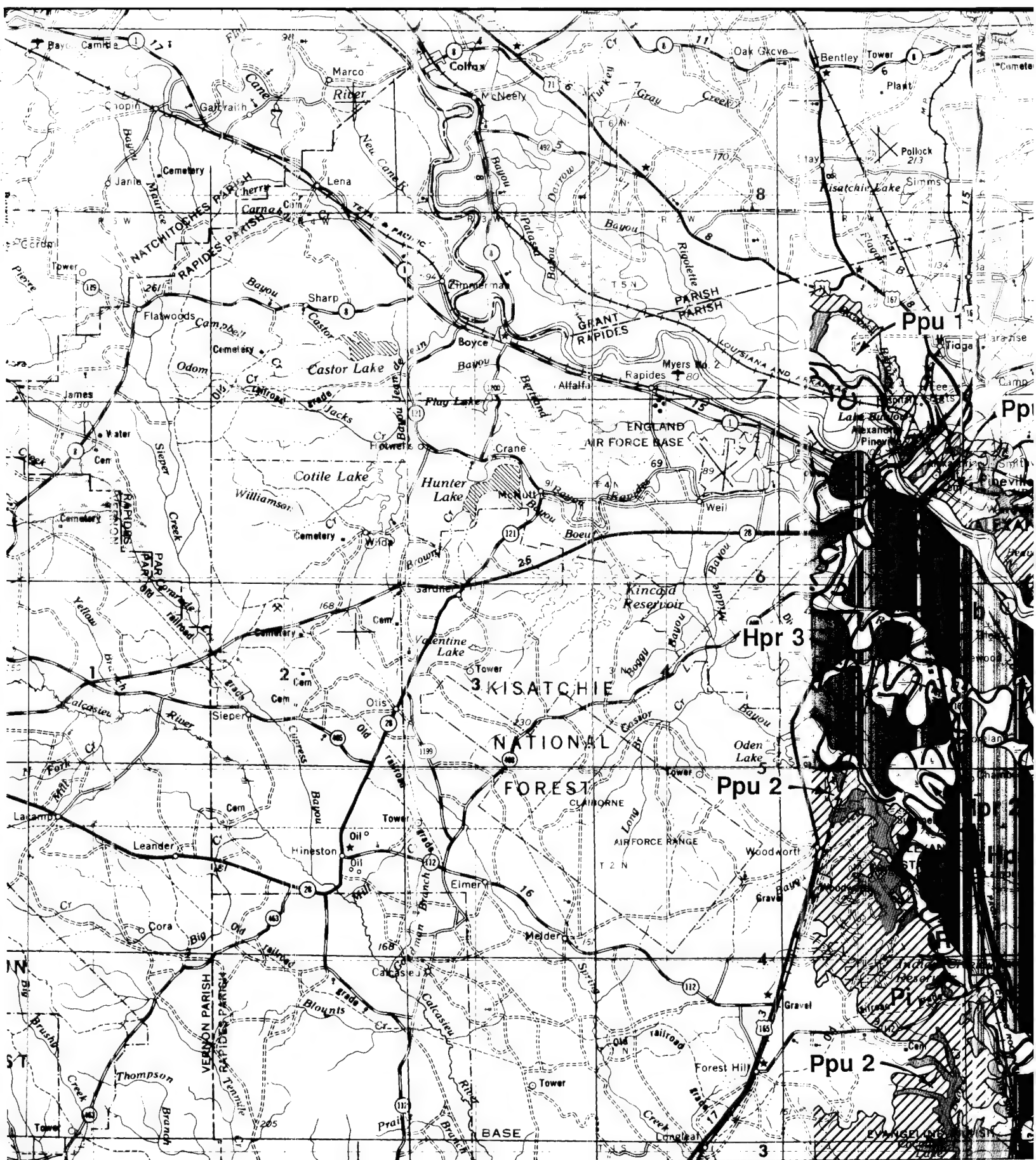




91° 00' 32" 00'

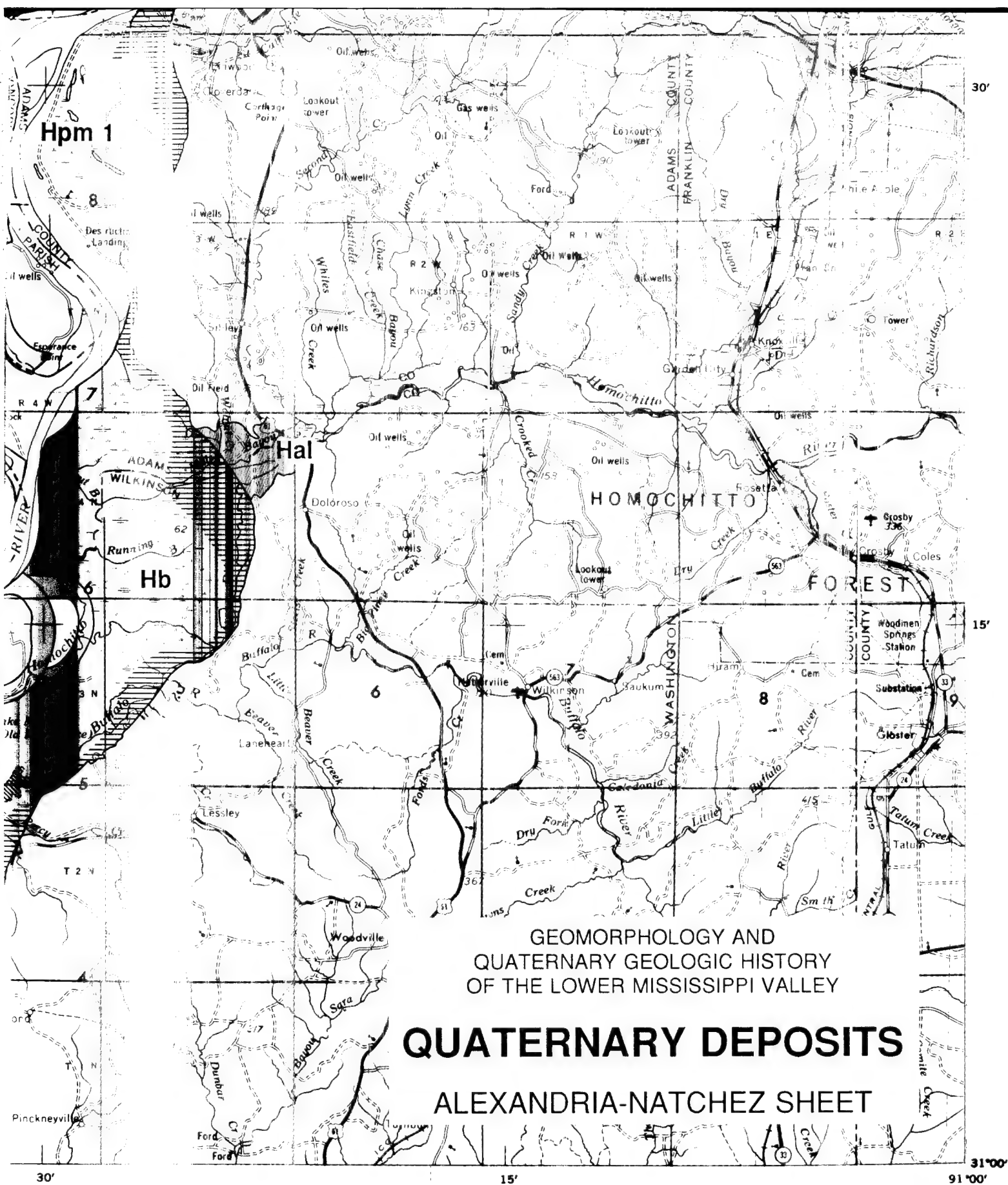






45'

30'



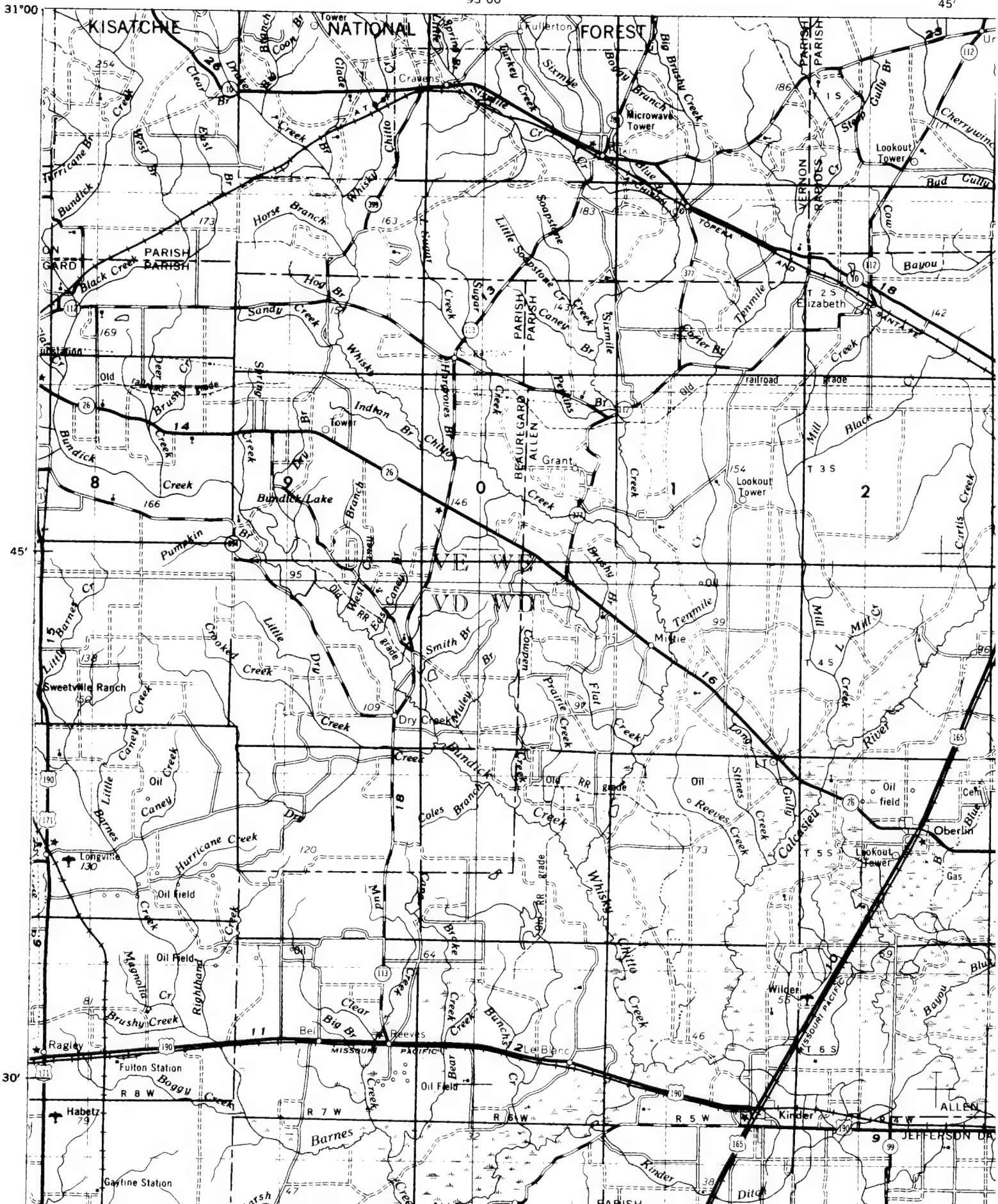
GEOMORPHOLOGY AND
QUATERNARY GEOLOGIC HISTORY
OF THE LOWER MISSISSIPPI VALLEY

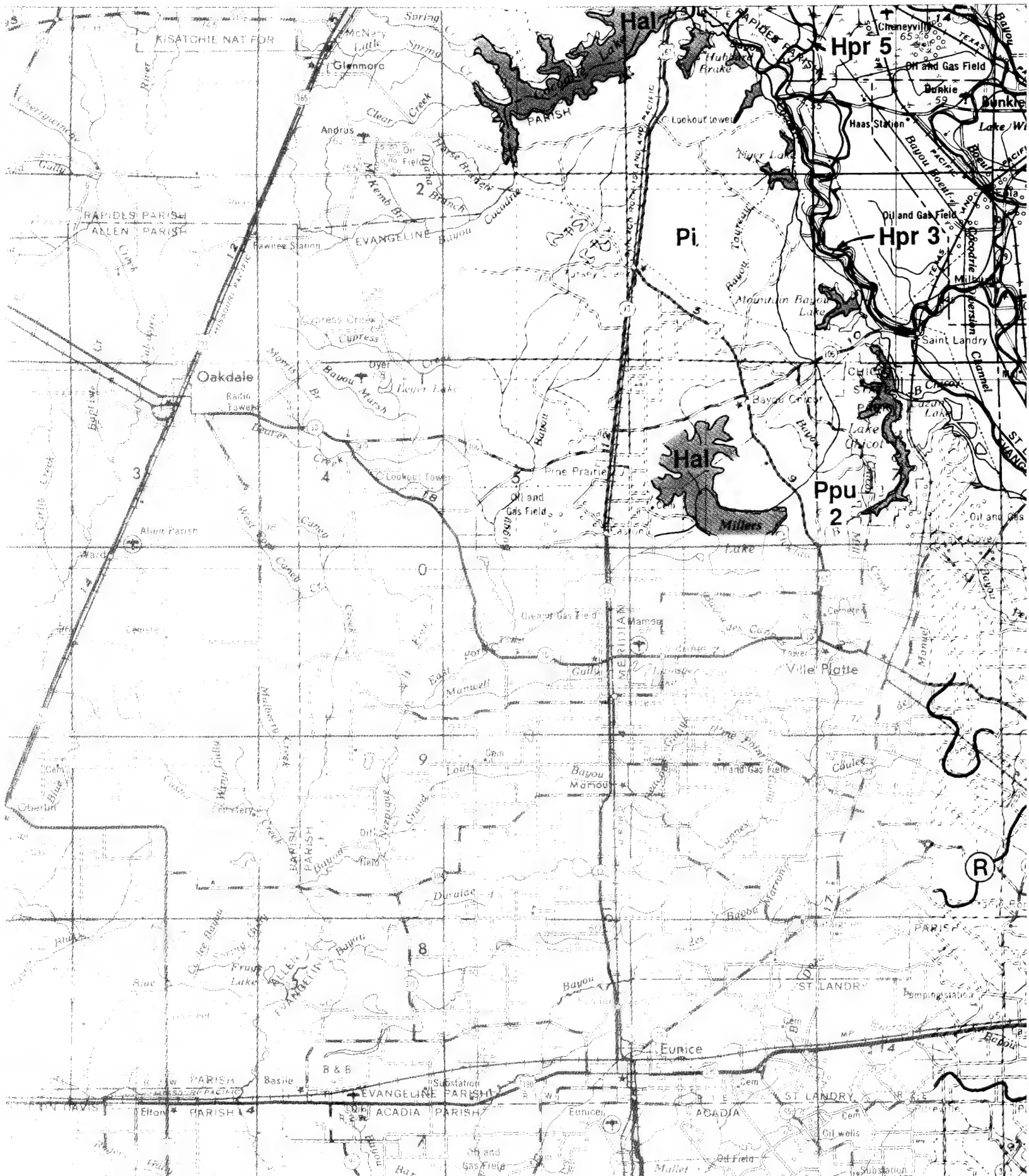
QUATERNARY DEPOSITS

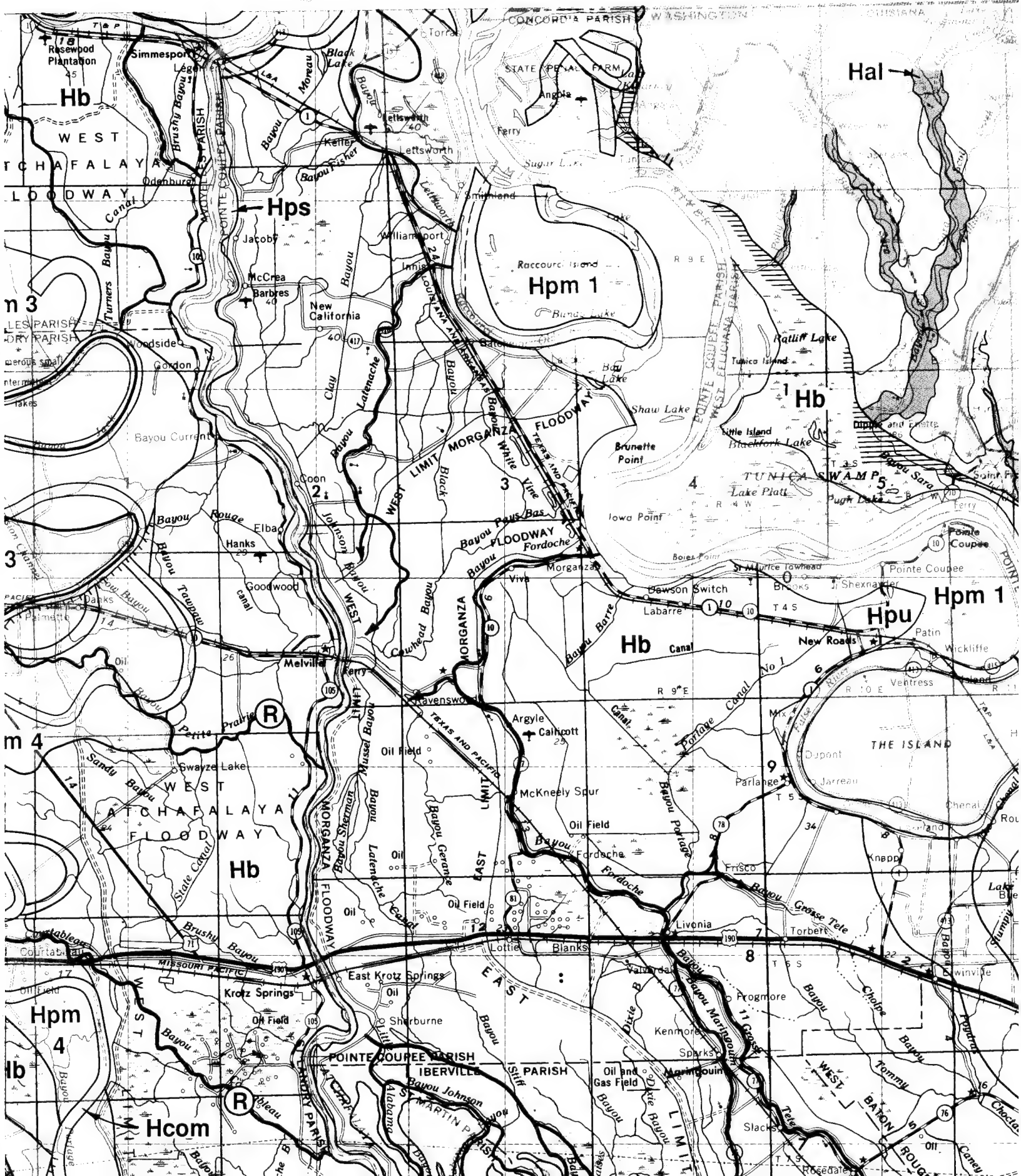
ALEXANDRIA-NATCHEZ SHEET

PLATE 10

45'





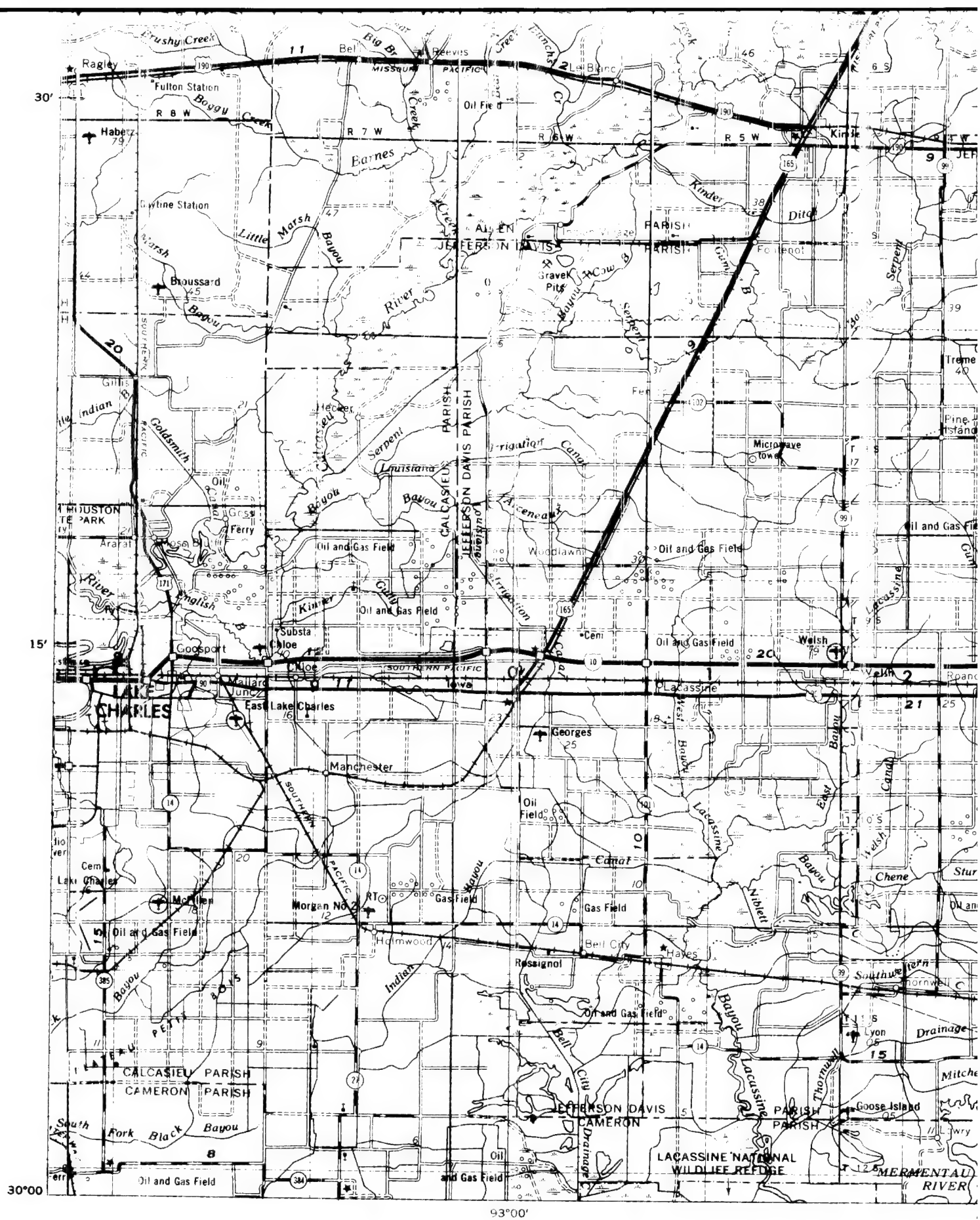


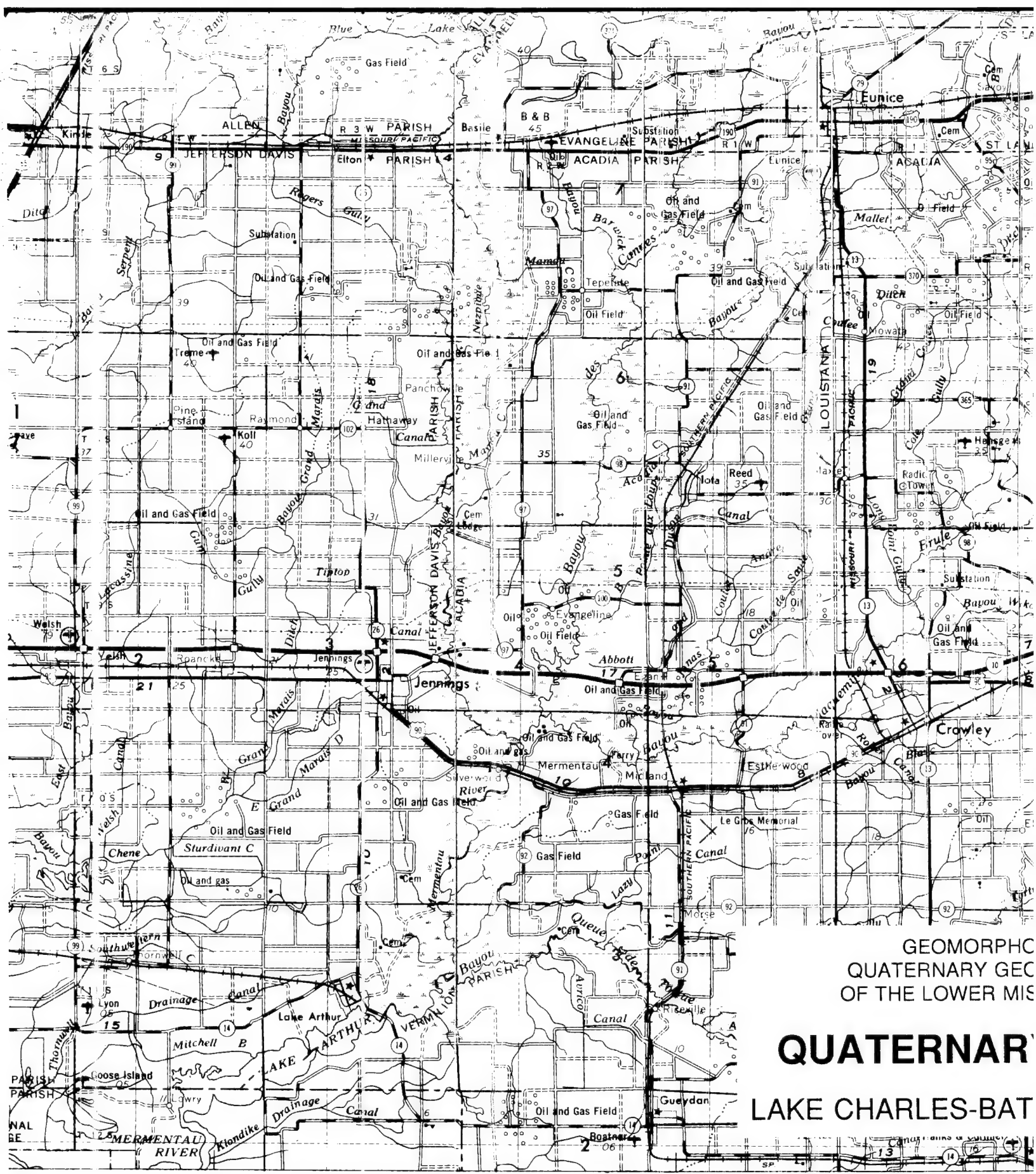
15'

91°00'

31°00'

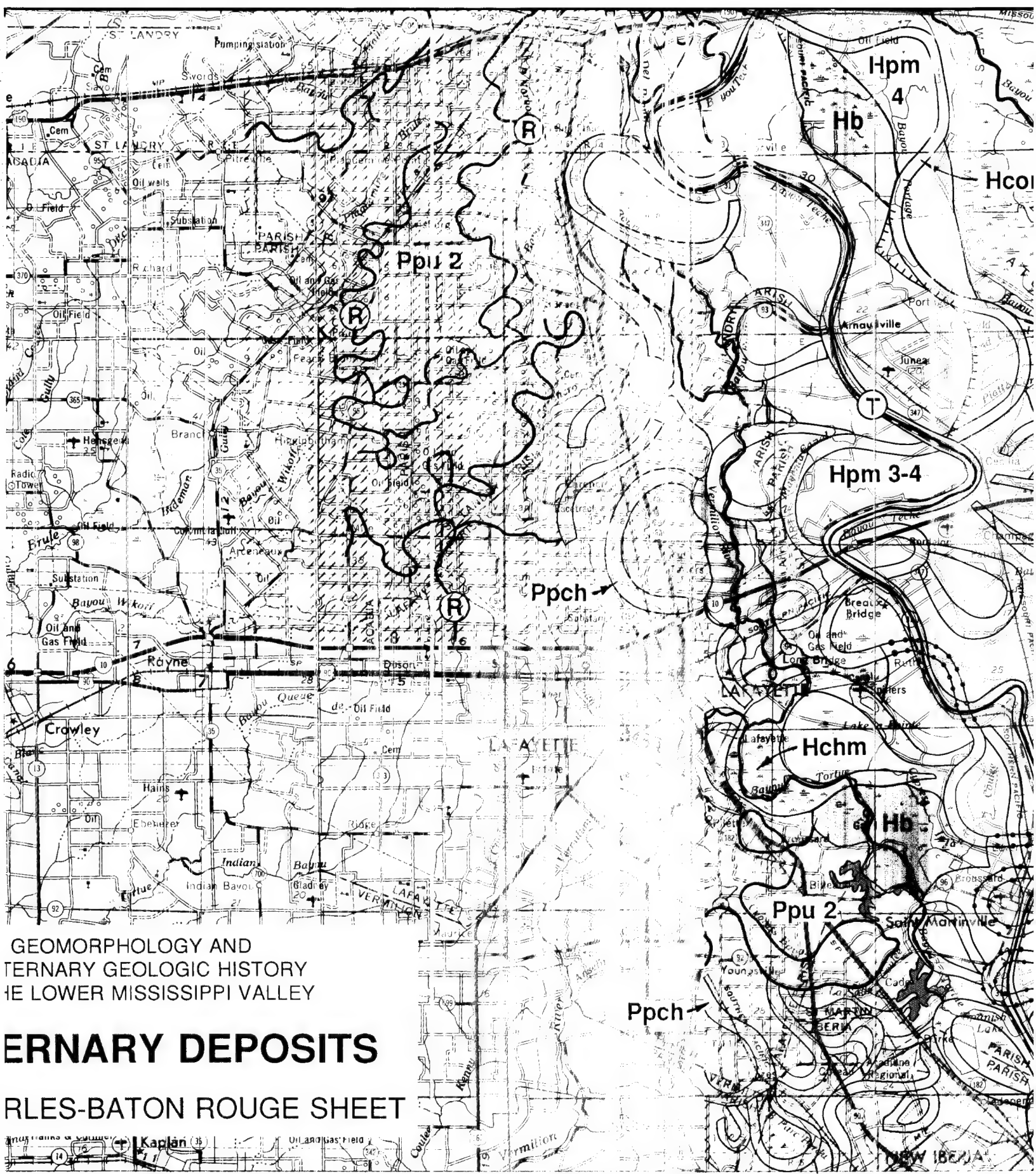


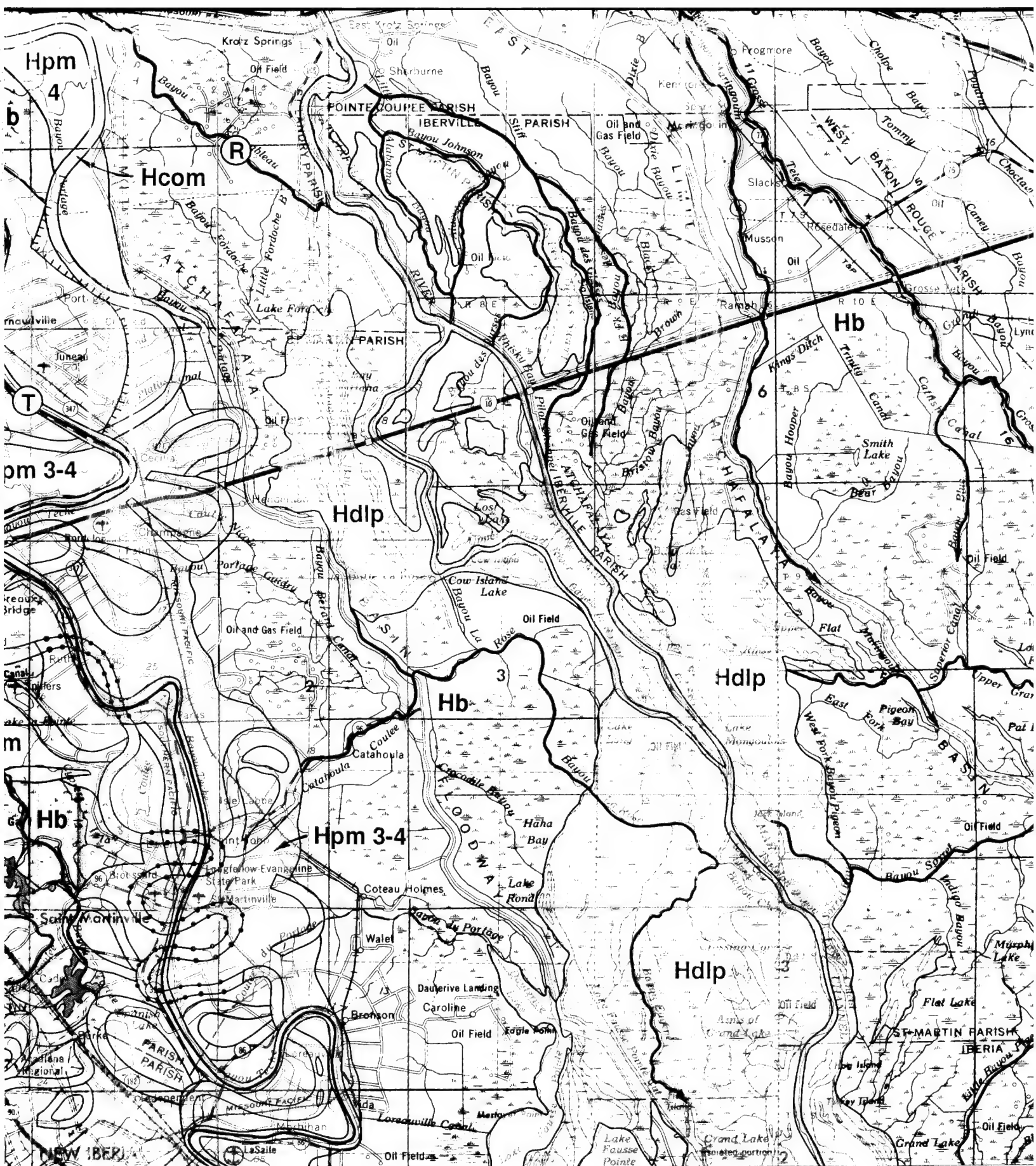




GEOMORPHIC
QUATERNARY GEOGRAPHY
OF THE LOWER MISSISSIPPI

QUATERNARY LAKE CHARLES-BATOUMAL





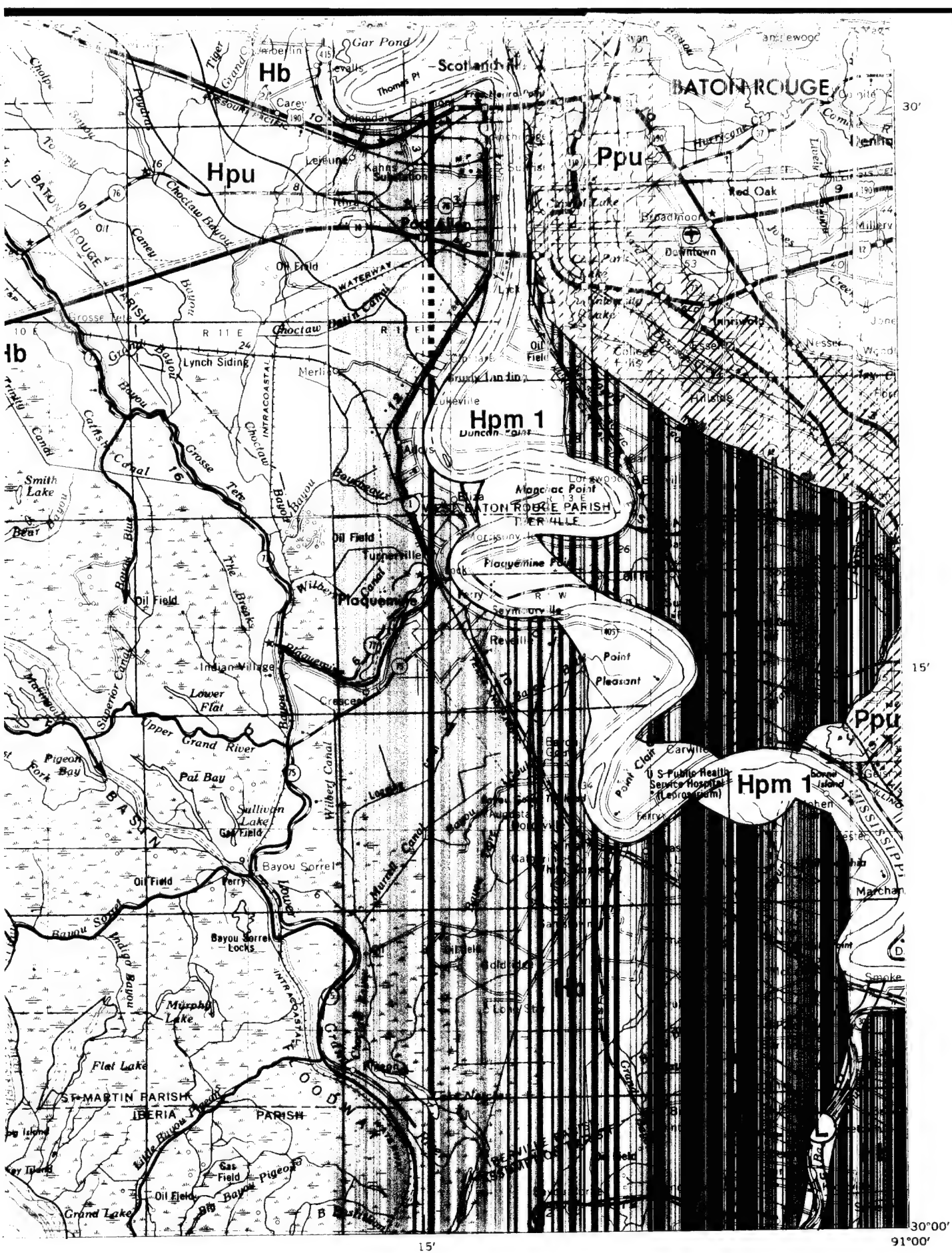


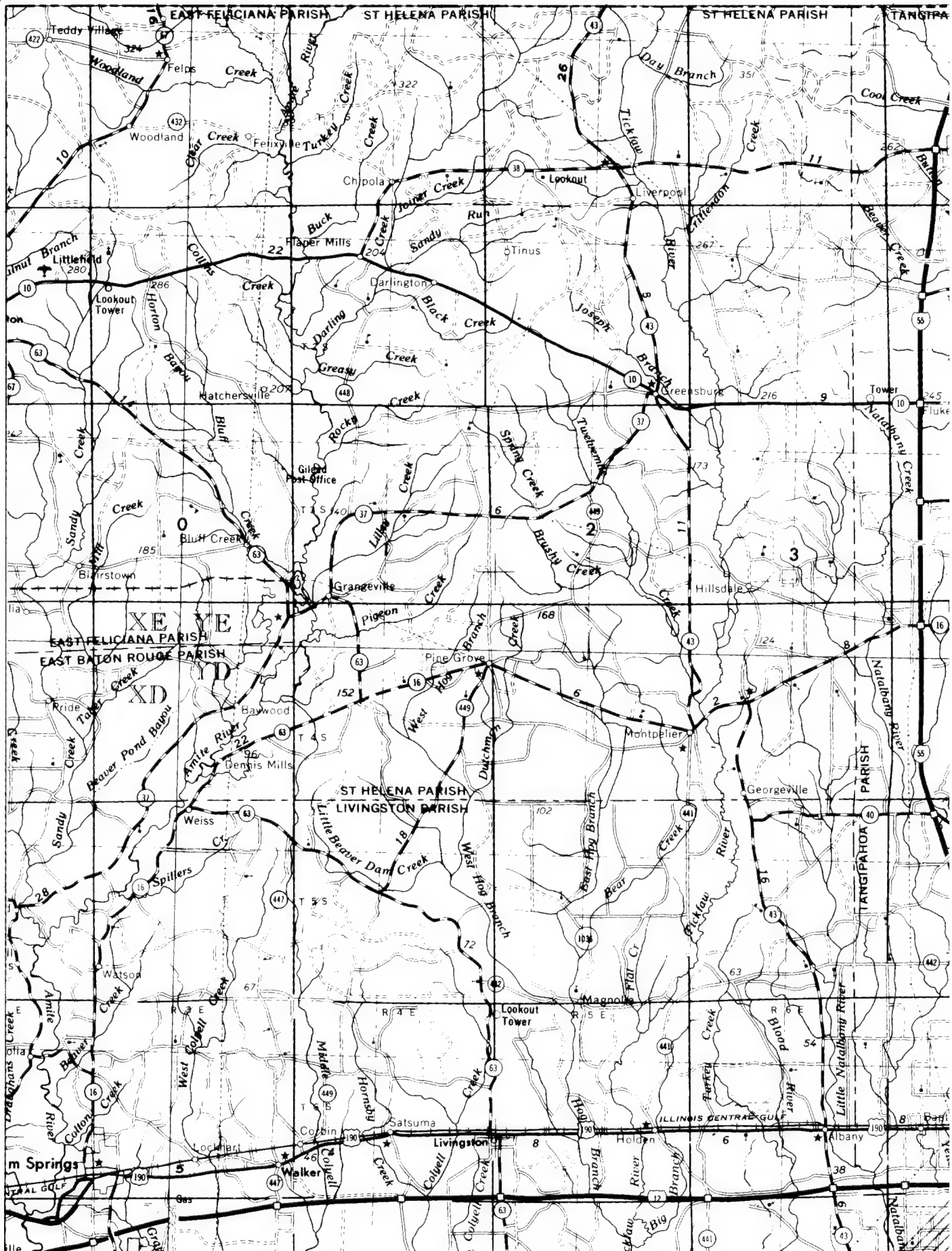
PLATE 11

91°00'
31°00'

45'

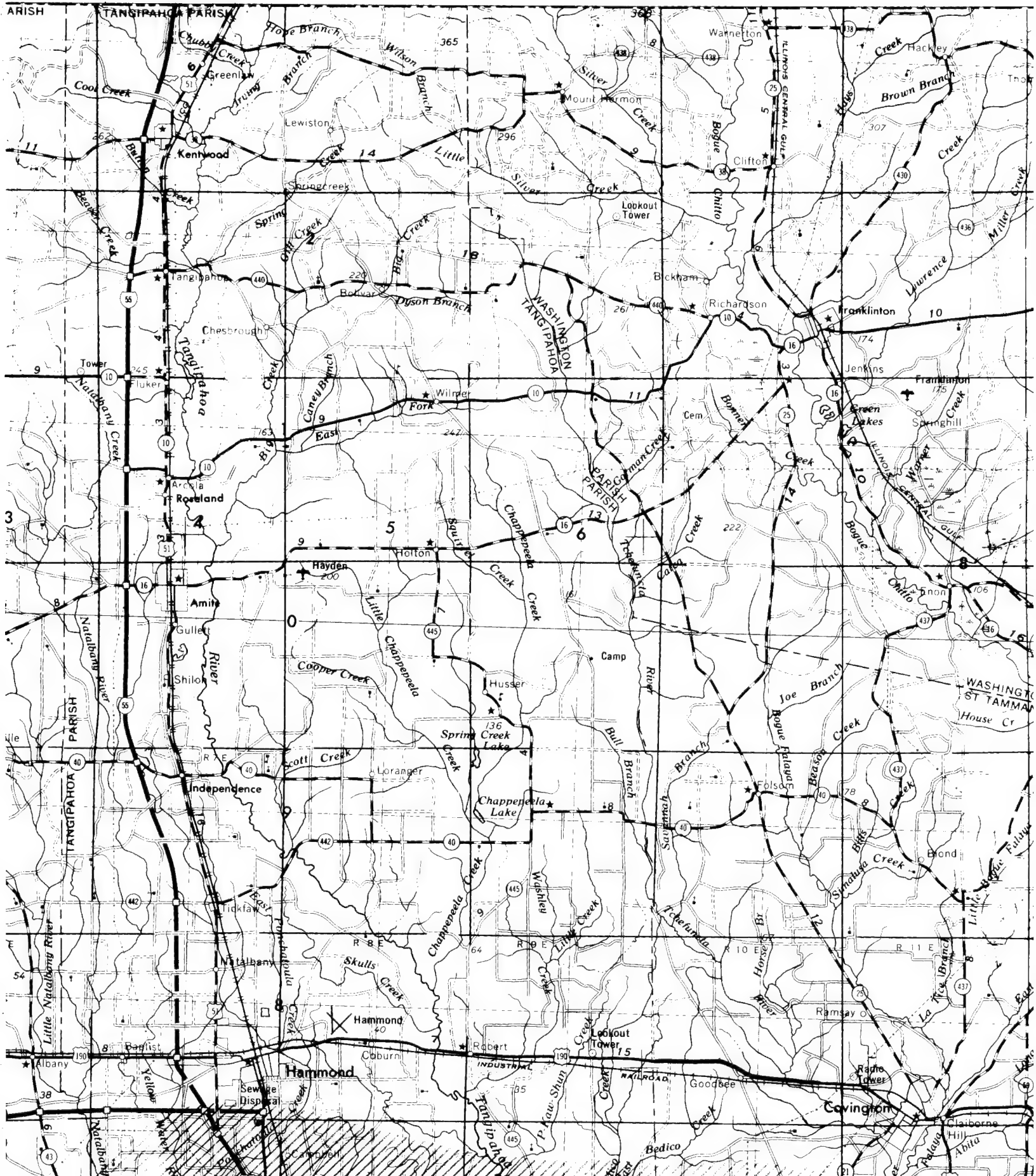
45'

30'



30'

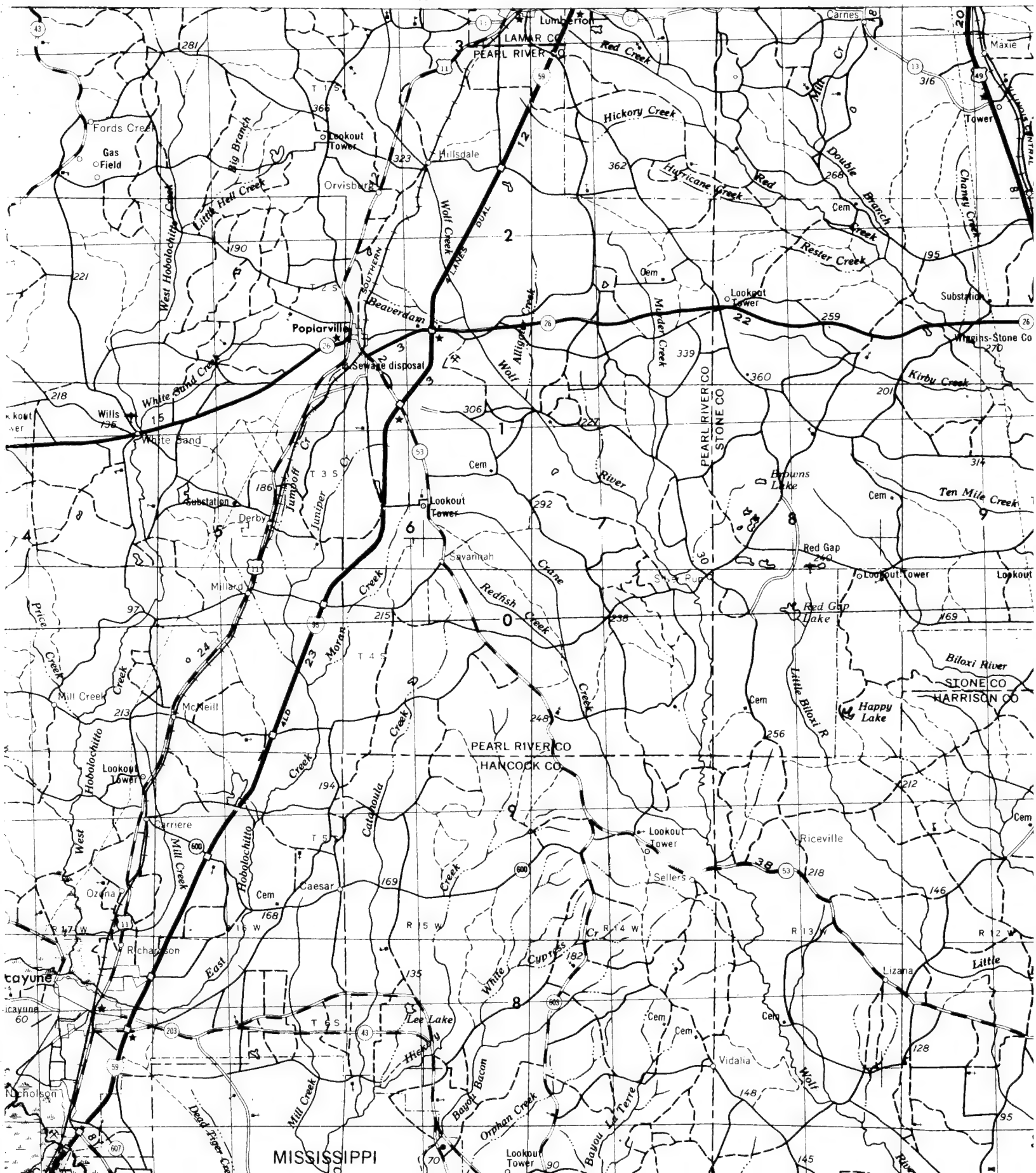
15'



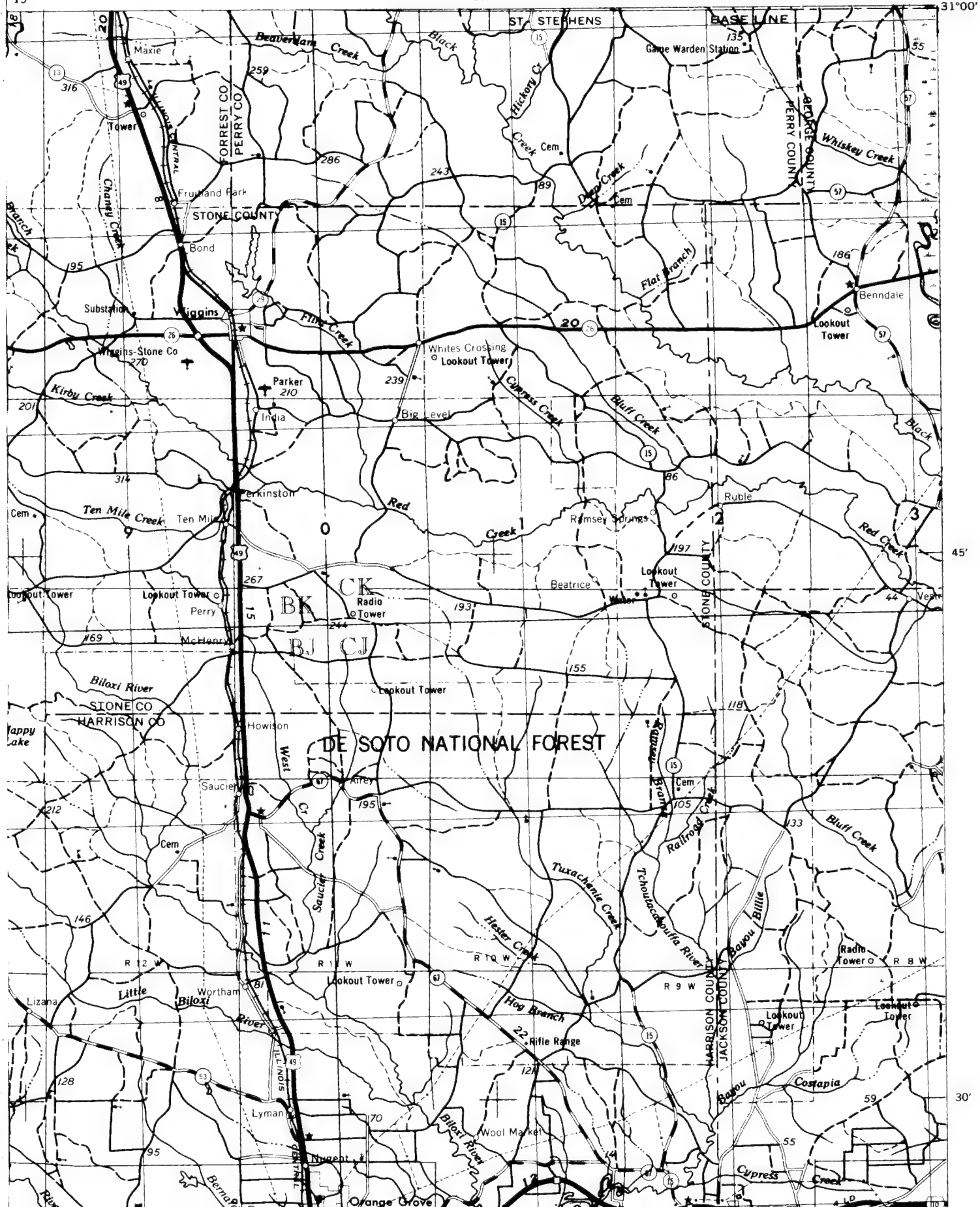
90°00'

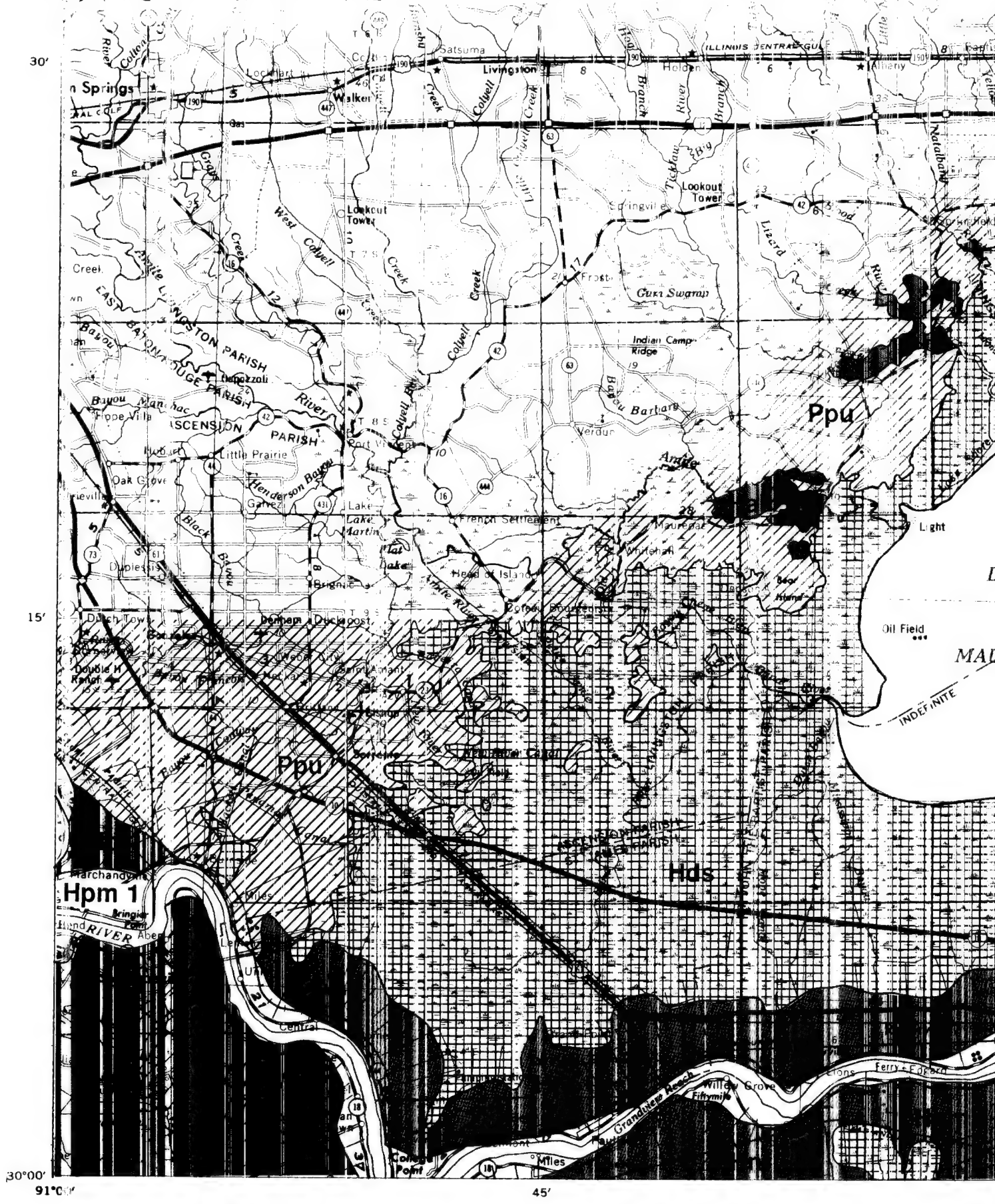
45'





15' 89°00' 31°00'



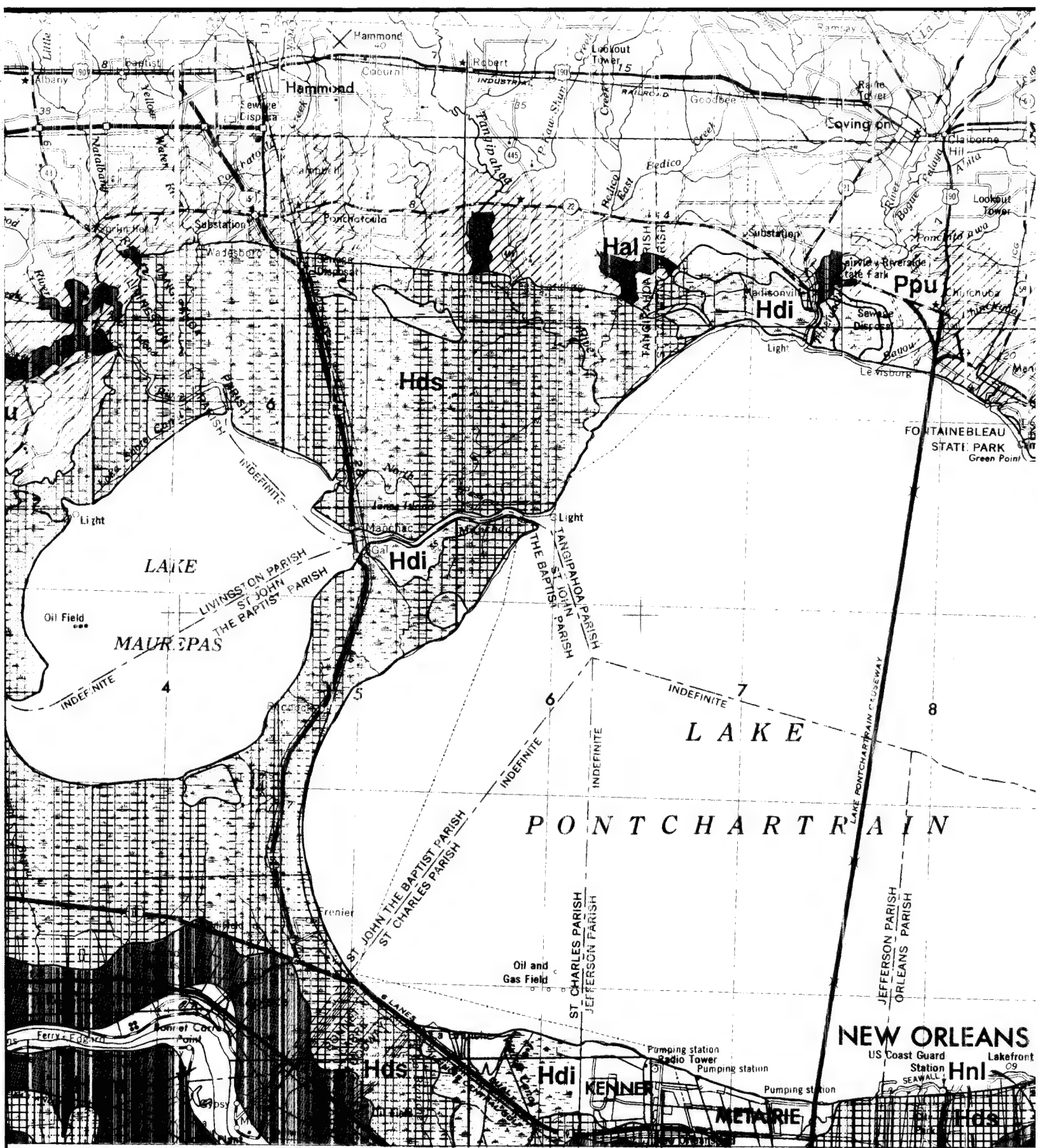


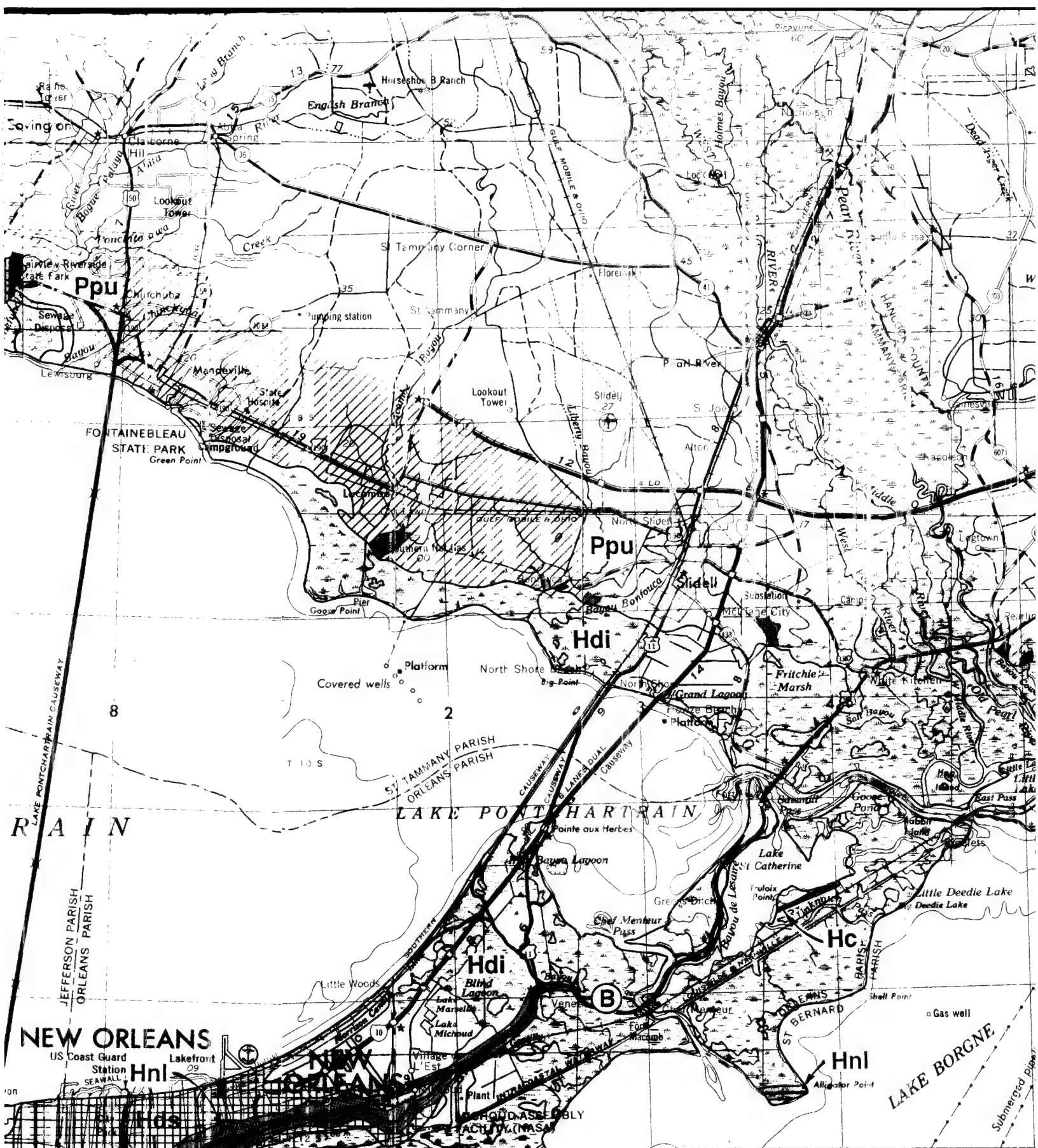
30'

15'

30°00'
91°00'

45'

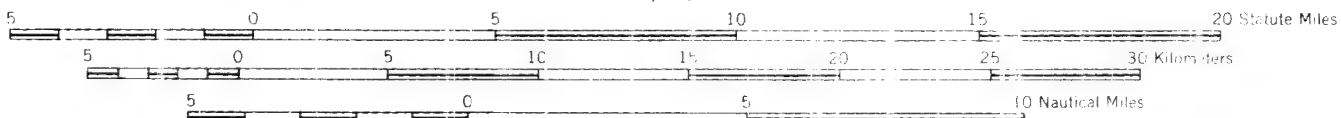


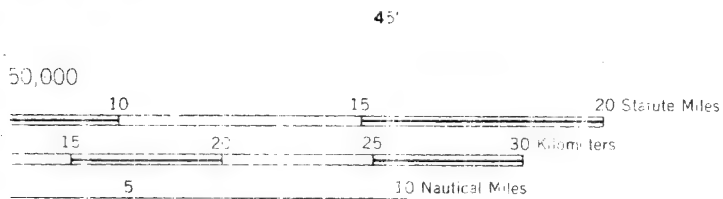
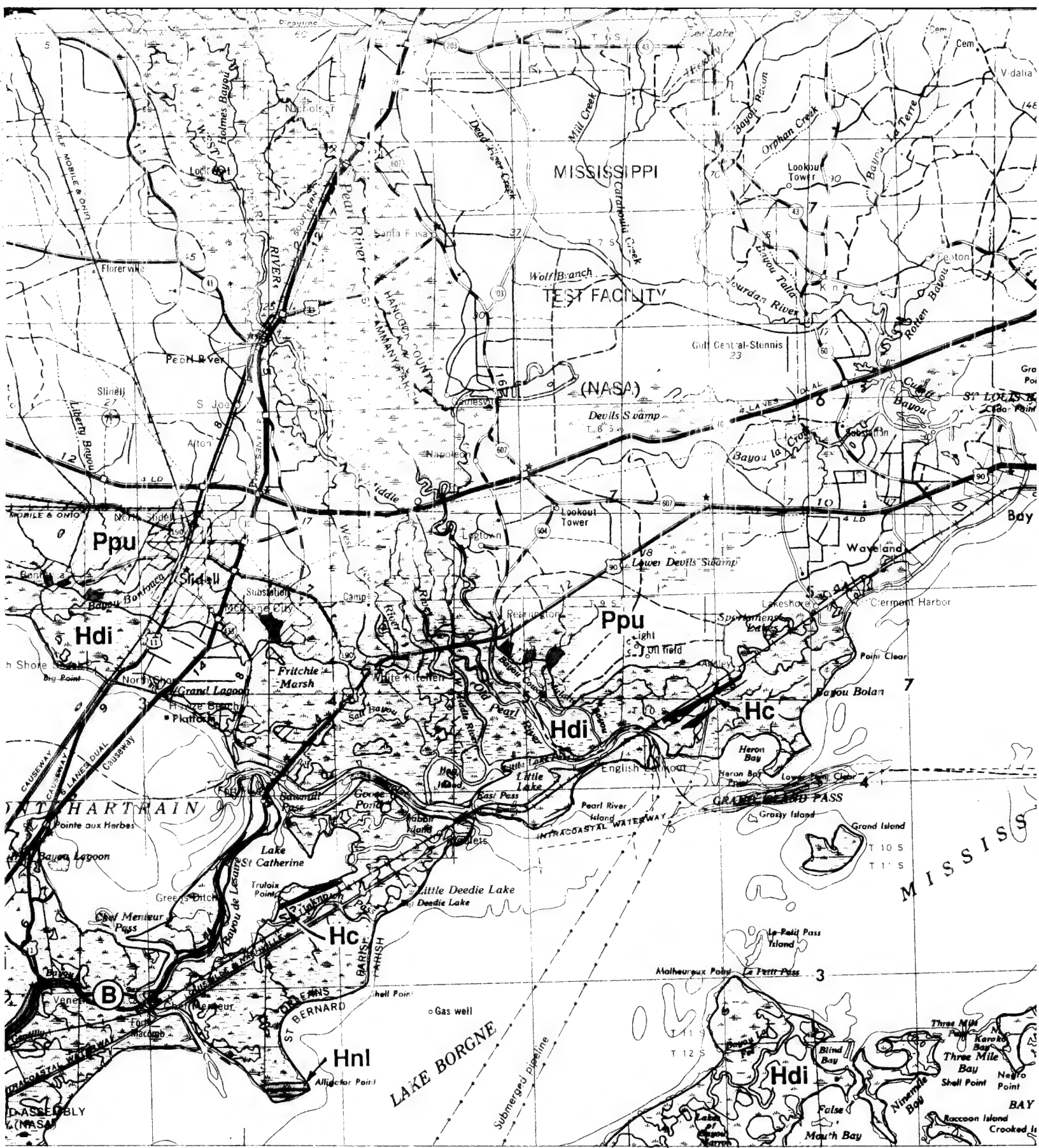


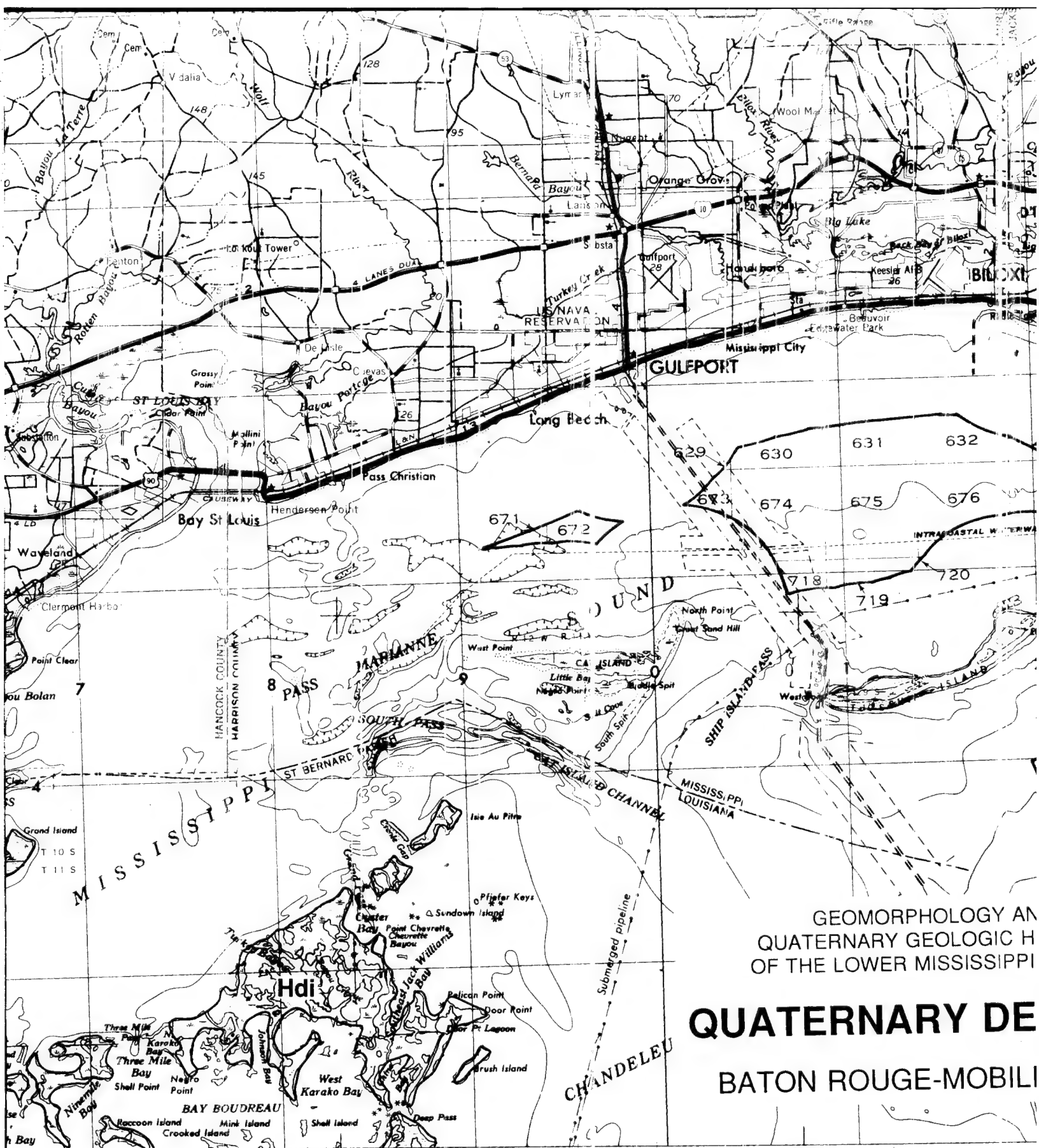
90°00'

45'

Scale 1:250,000





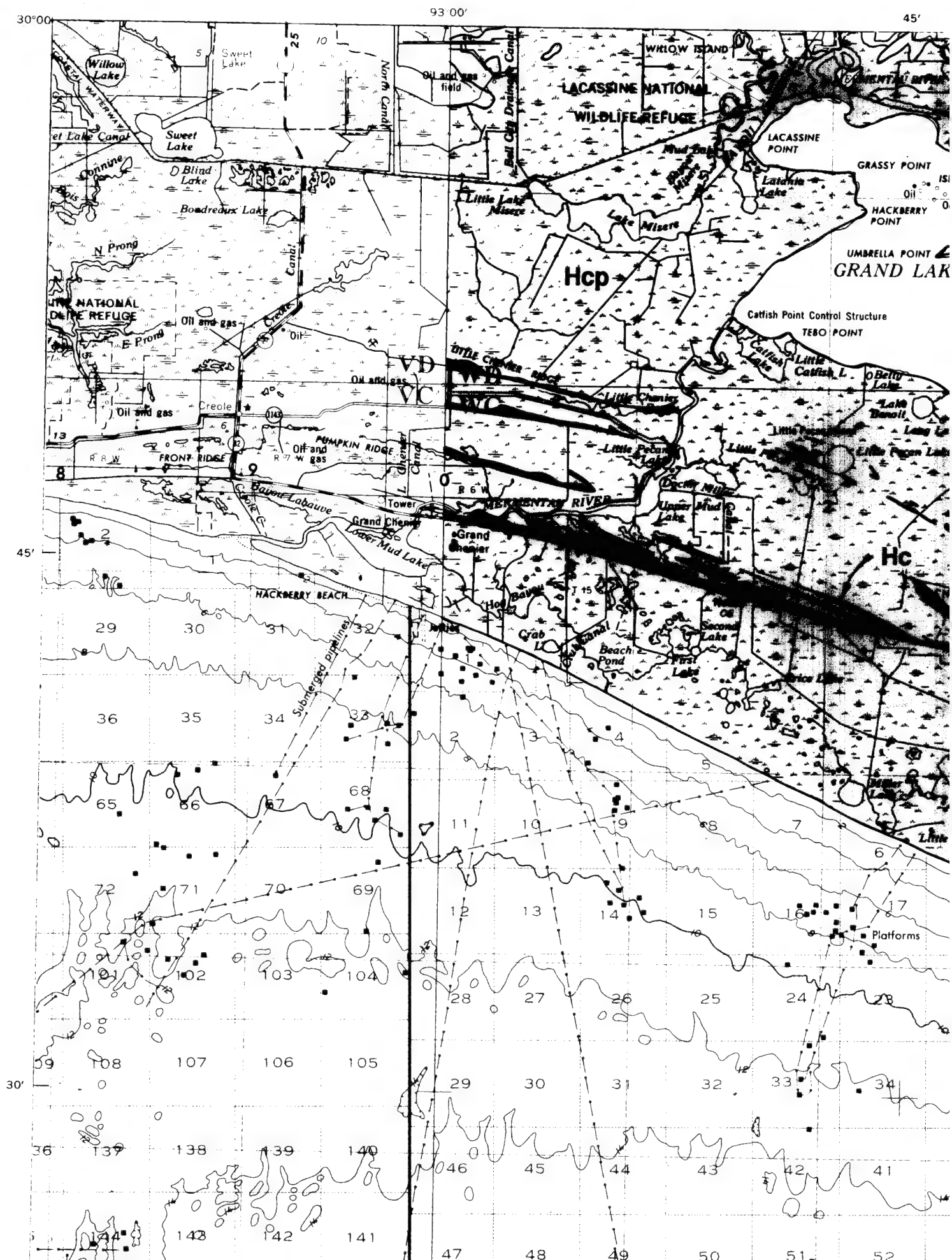


GEOMORPHOLOGY AND
QUATERNARY GEOLOGIC HISTORY
OF THE LOWER MISSISSIPPI

QUATERNARY DEBATON
ROUGE-MOBILE

15'

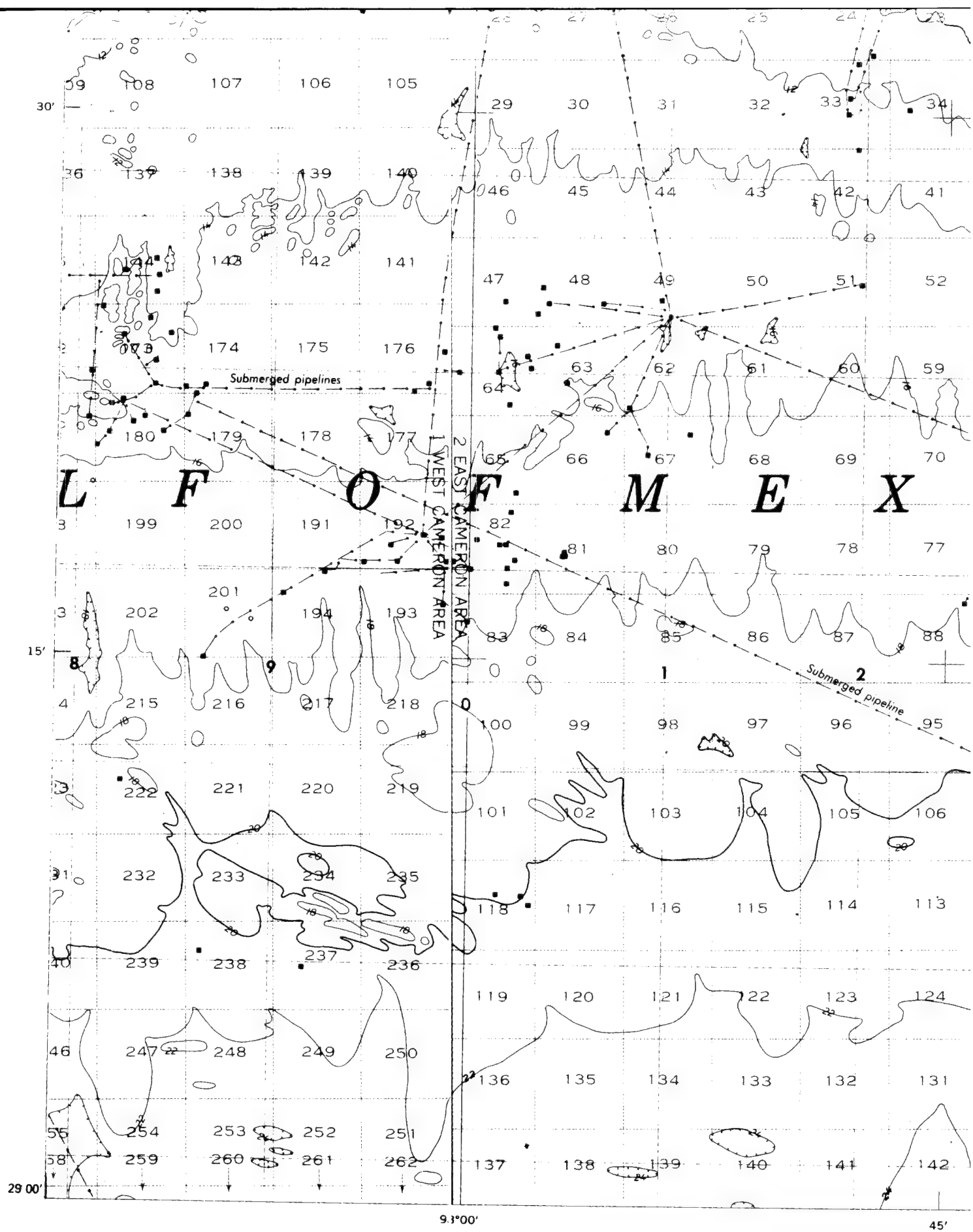
89°00'

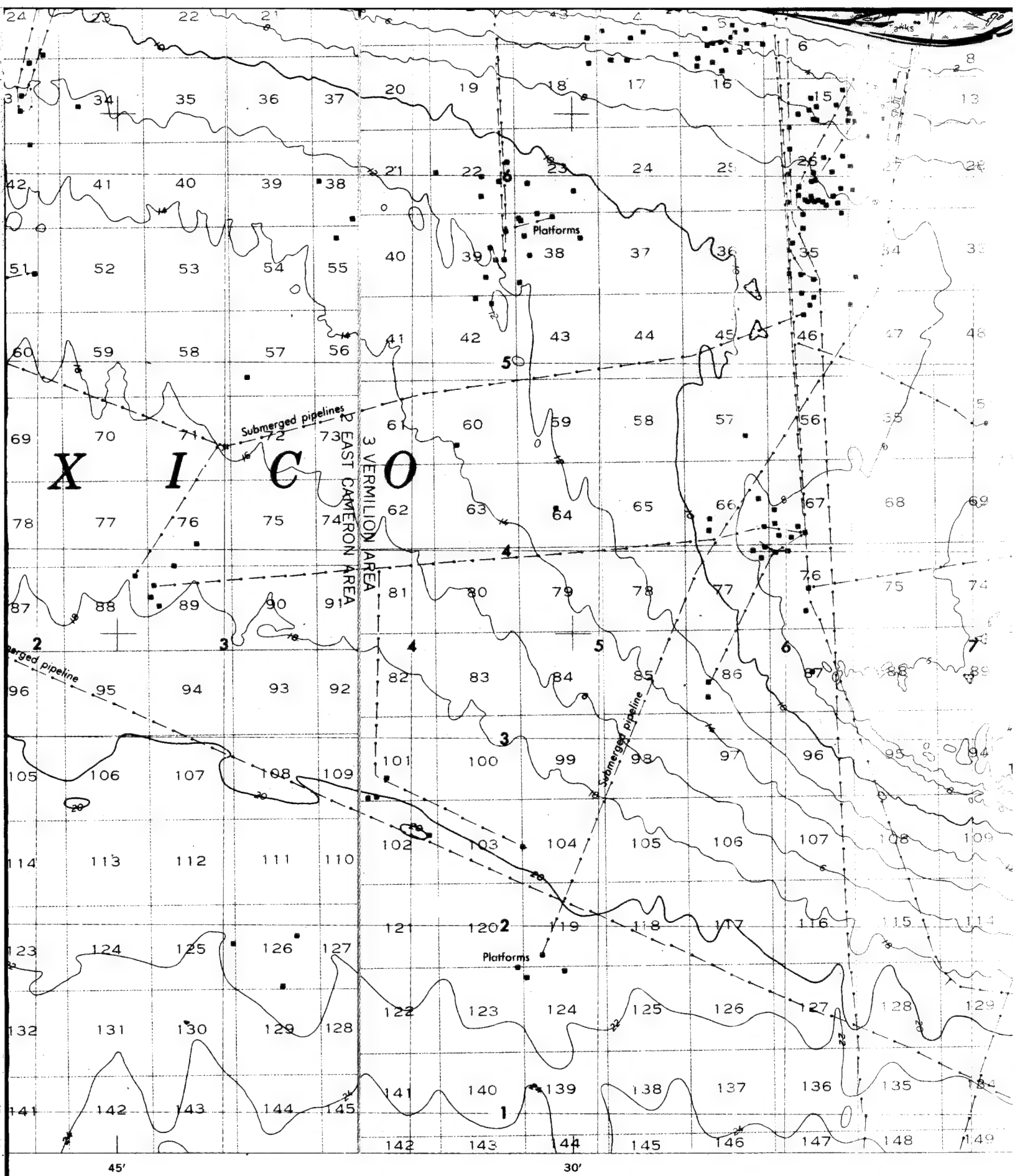


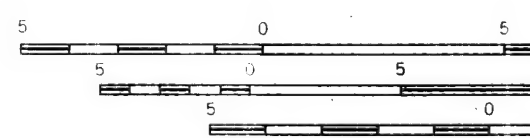
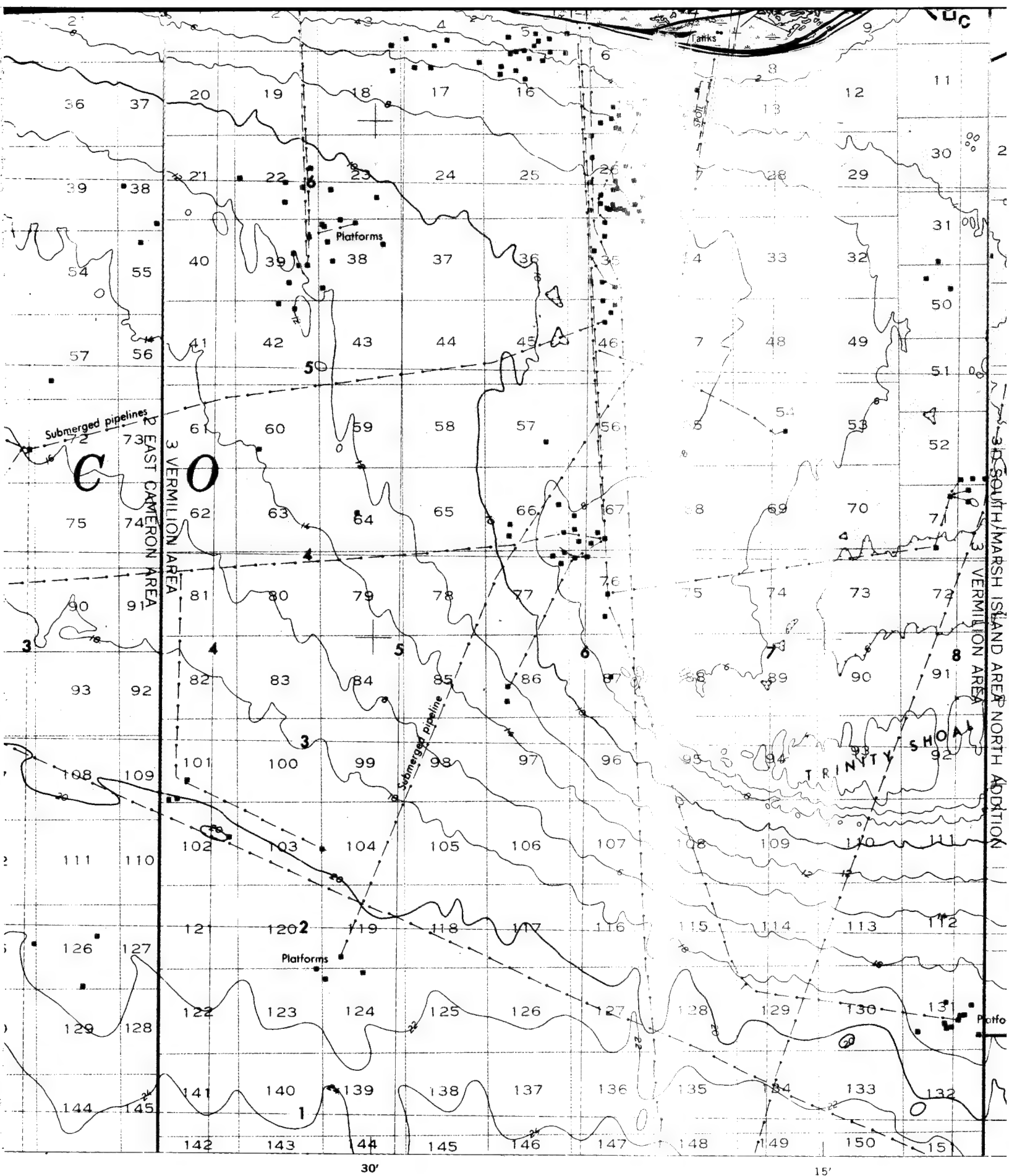


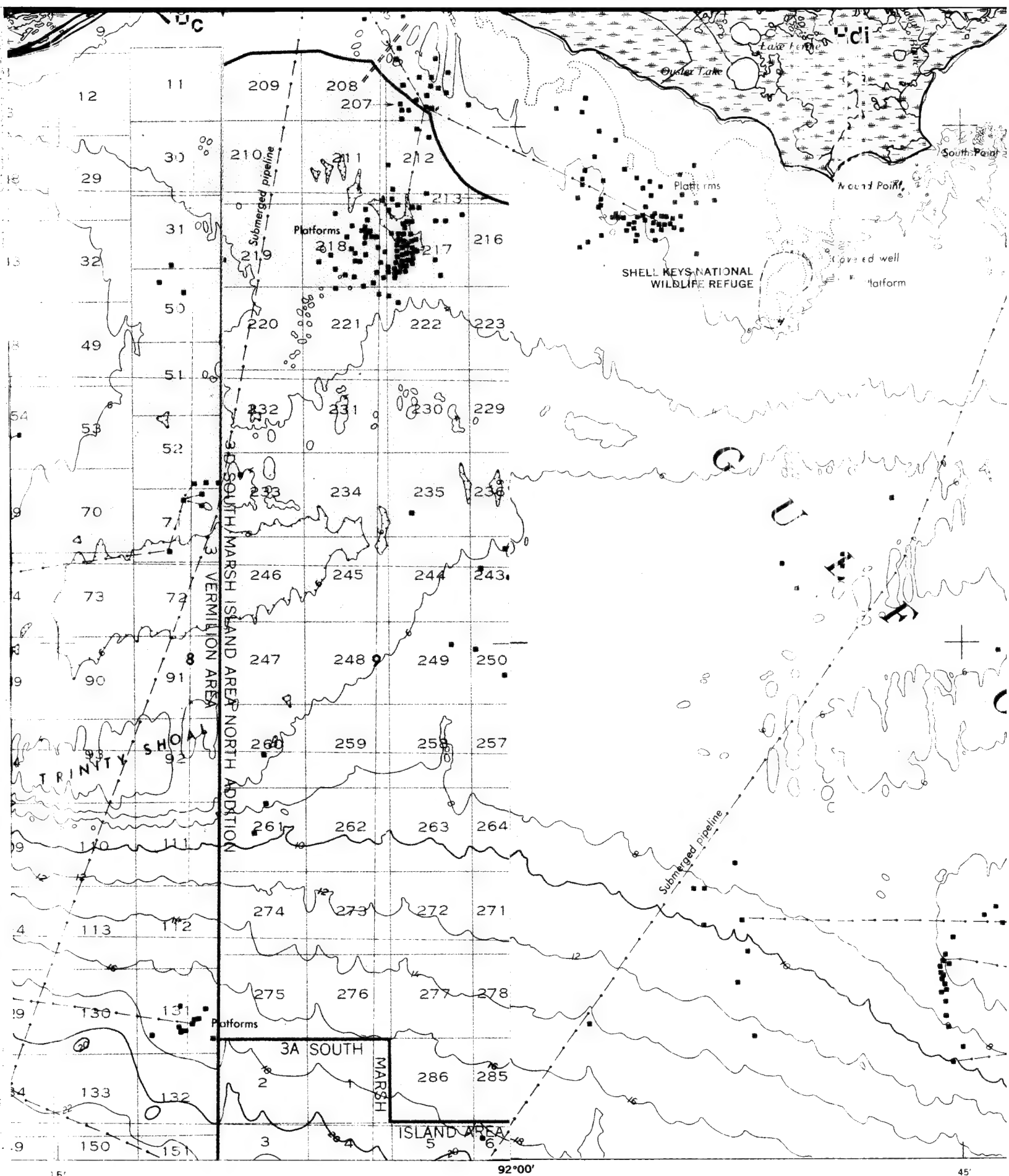










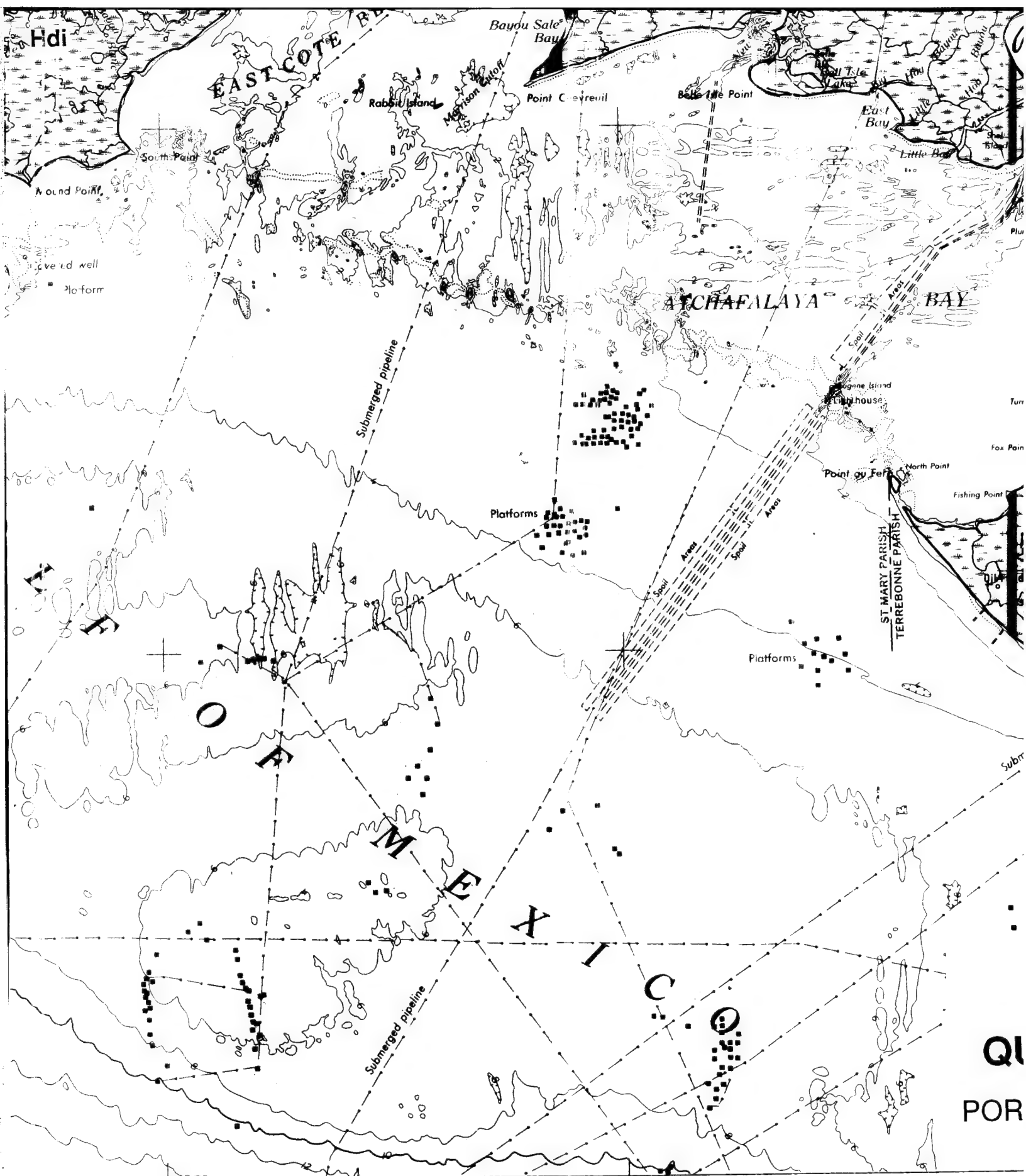


Scale 1:250,000

20 Statute Miles

30 Kilometers

10 Nautical Miles



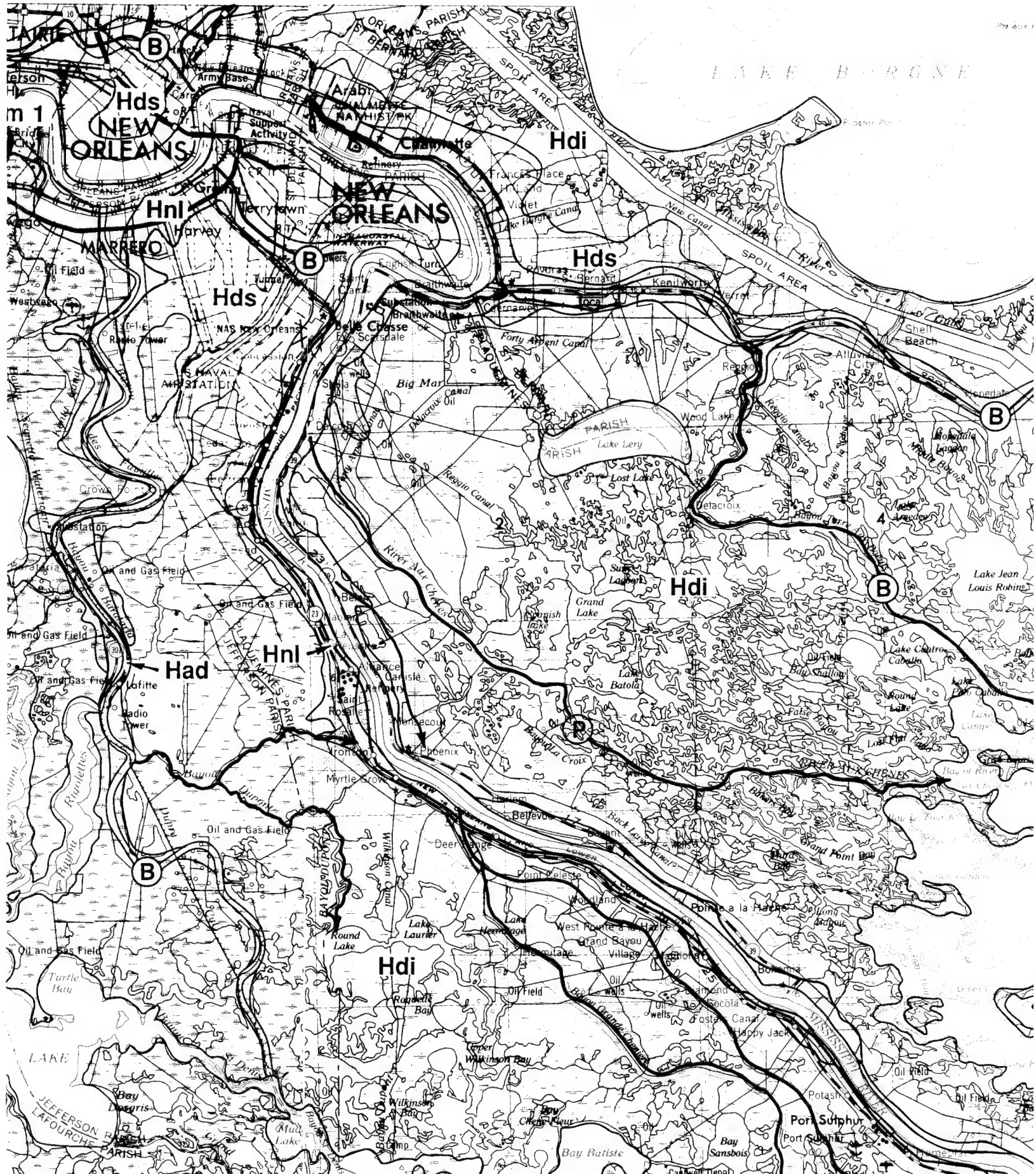
45'

30'

QU
POR

This is a detailed black and white map of the Houma, Louisiana area. The map shows the Houma and Bayou Lafourche canals, major roads, and various land parcels labeled with codes like Hb, Hdi, Hpm, and Hds. The map also shows the Gulf of Mexico coastline and several oil and gas fields. The map is oriented with North at the top. The Houma Canal runs diagonally from the top left to the bottom right. The Bayou Lafourche runs horizontally across the middle. The map includes labels for various locations such as Houma, Bayou Lafourche, and several oil and gas fields. The map also shows the Gulf of Mexico coastline and several oil and gas fields. The map is oriented with North at the top. The Houma Canal runs diagonally from the top left to the bottom right. The Bayou Lafourche runs horizontally across the middle. The map includes labels for various locations such as Houma, Bayou Lafourche, and several oil and gas fields. The map also shows the Gulf of Mexico coastline and several oil and gas fields.





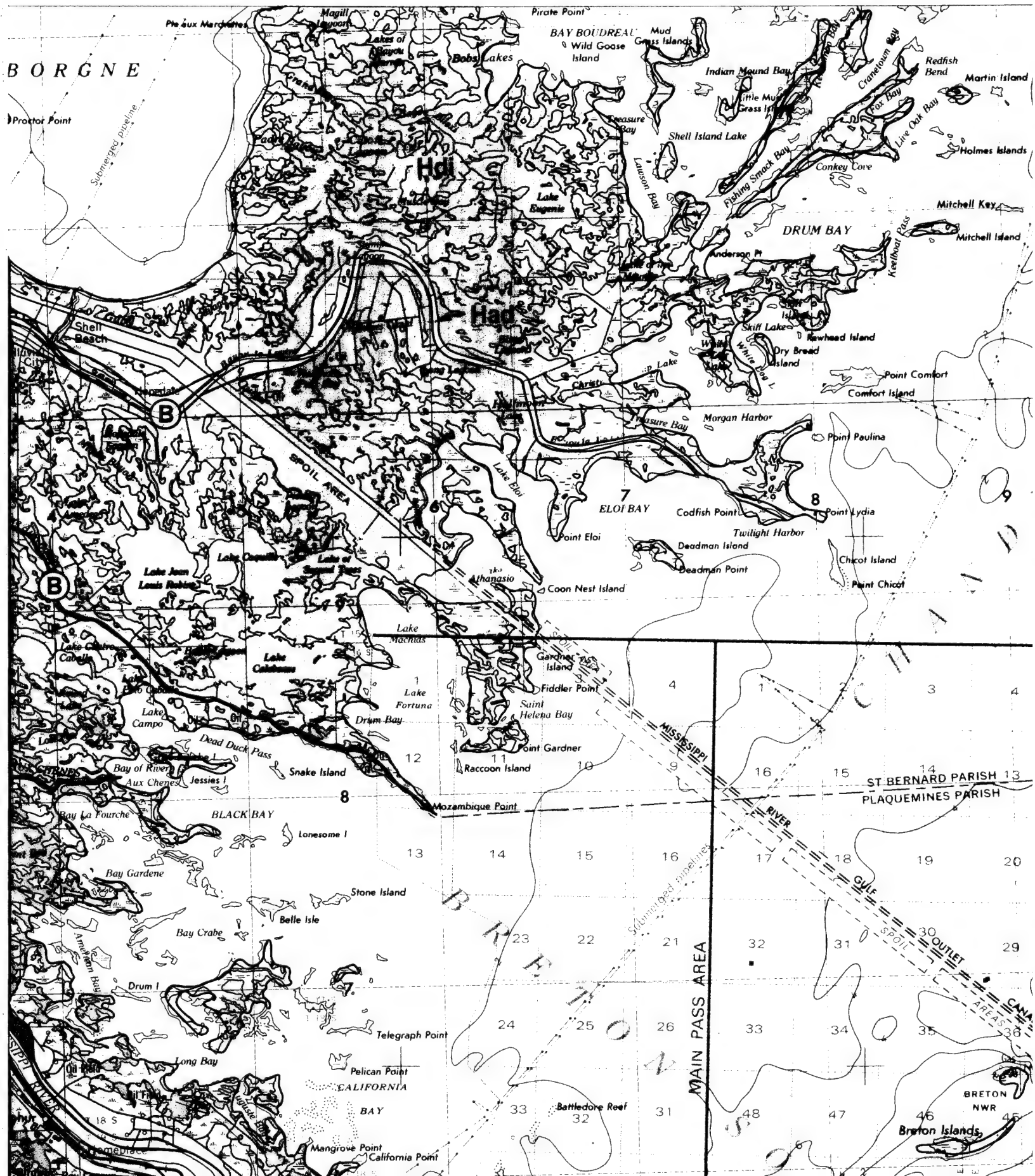
30'

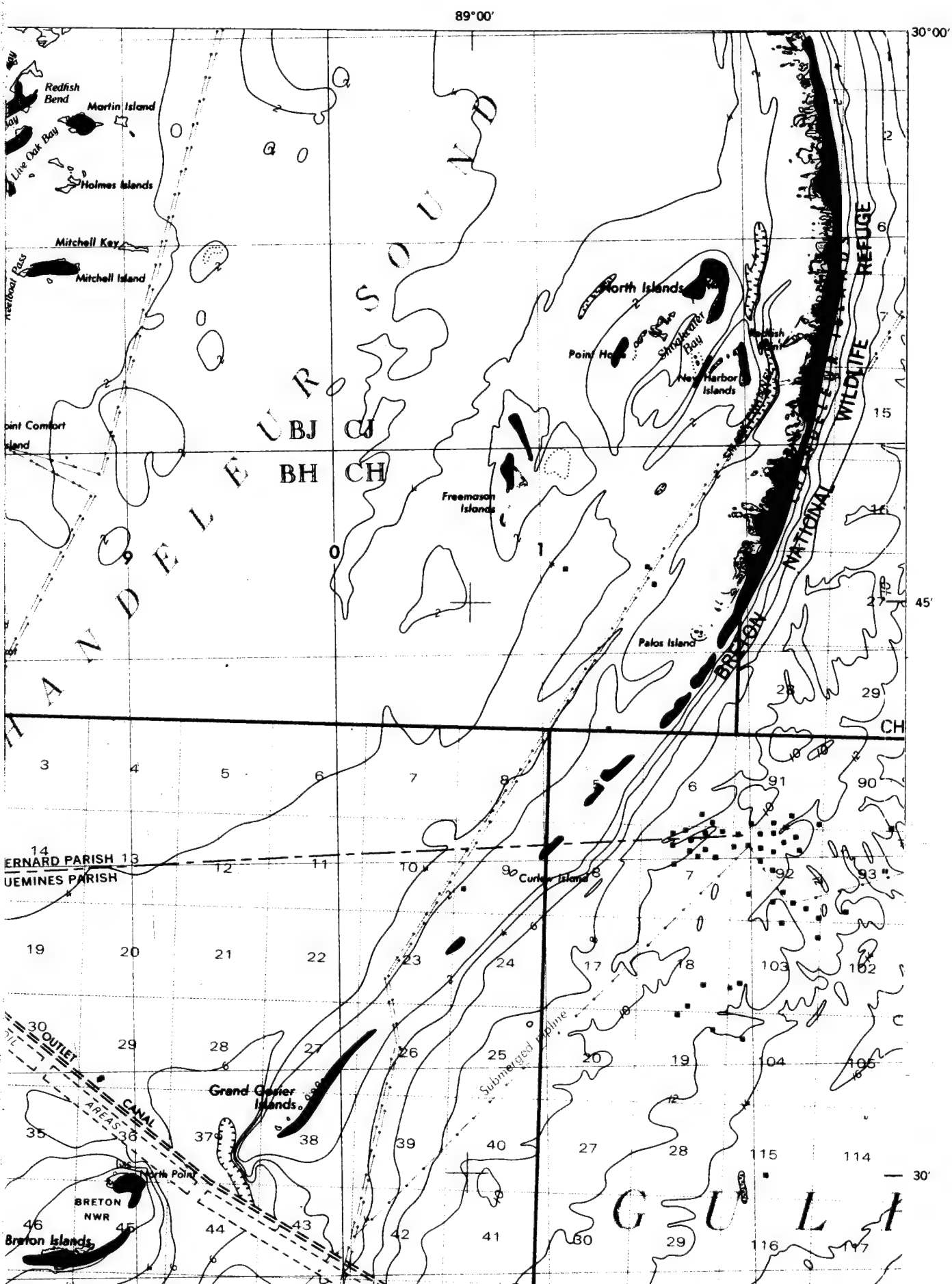
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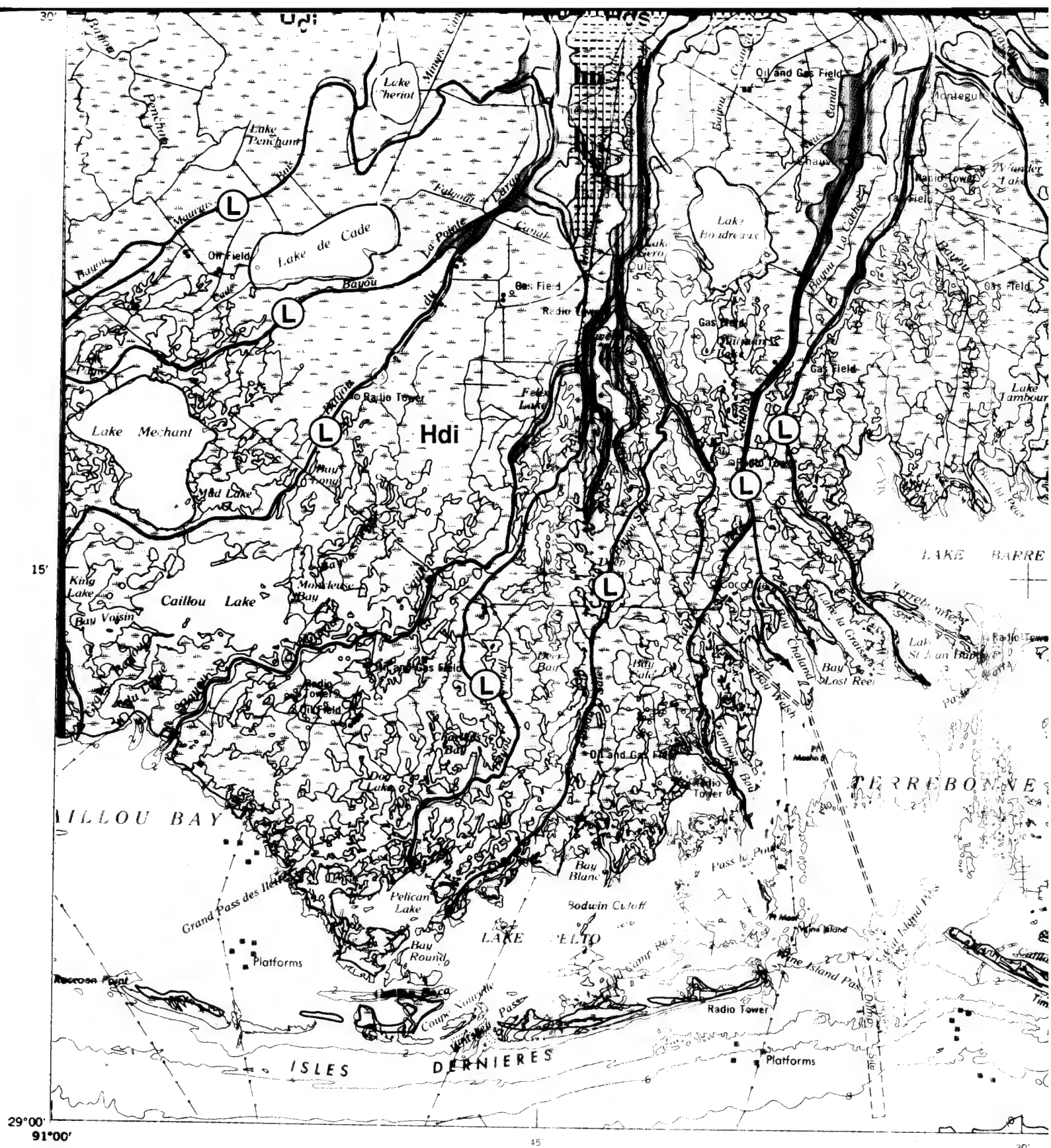
BORGNE

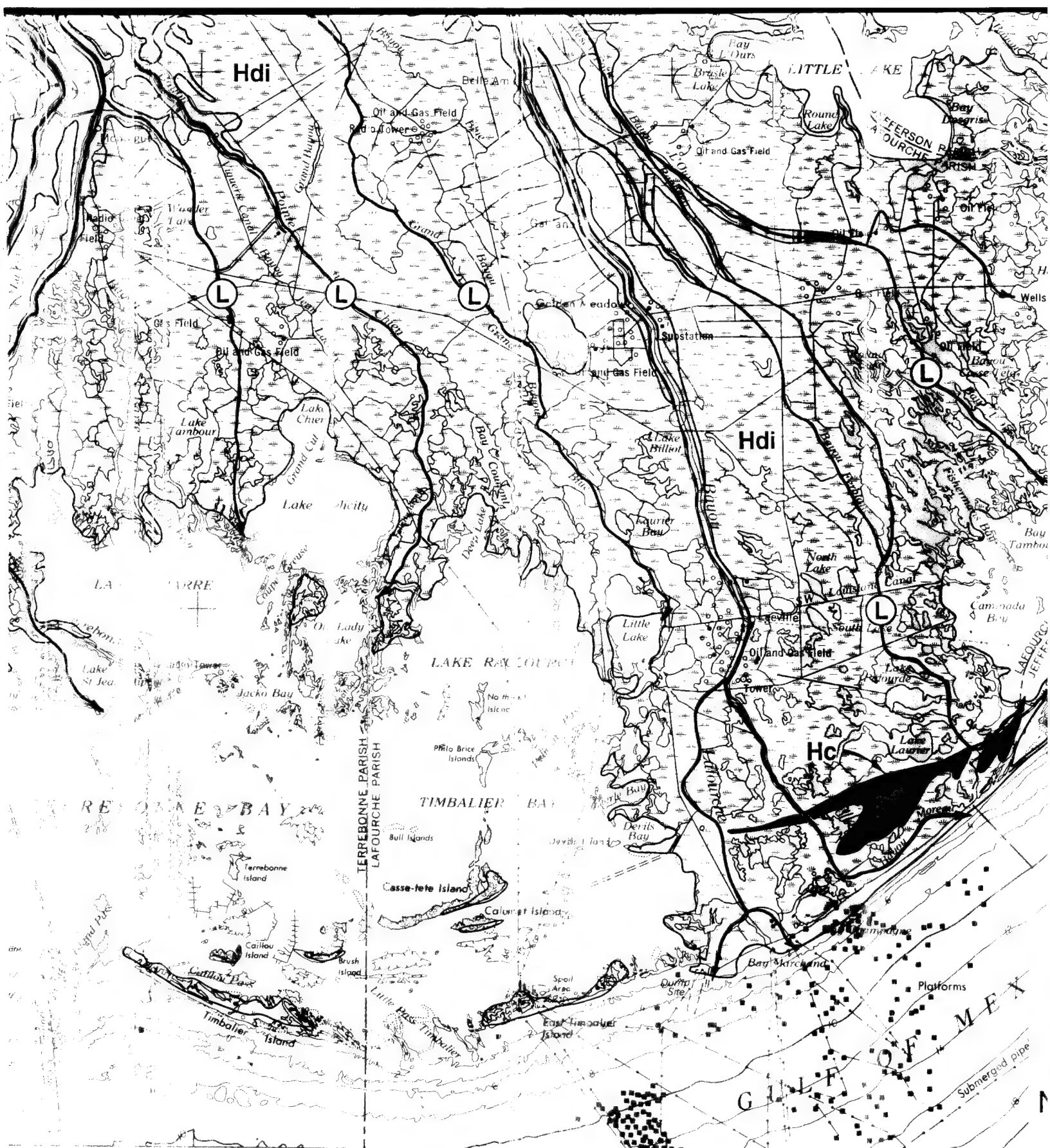
Proctor Point

Submerged Pipeline



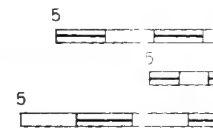


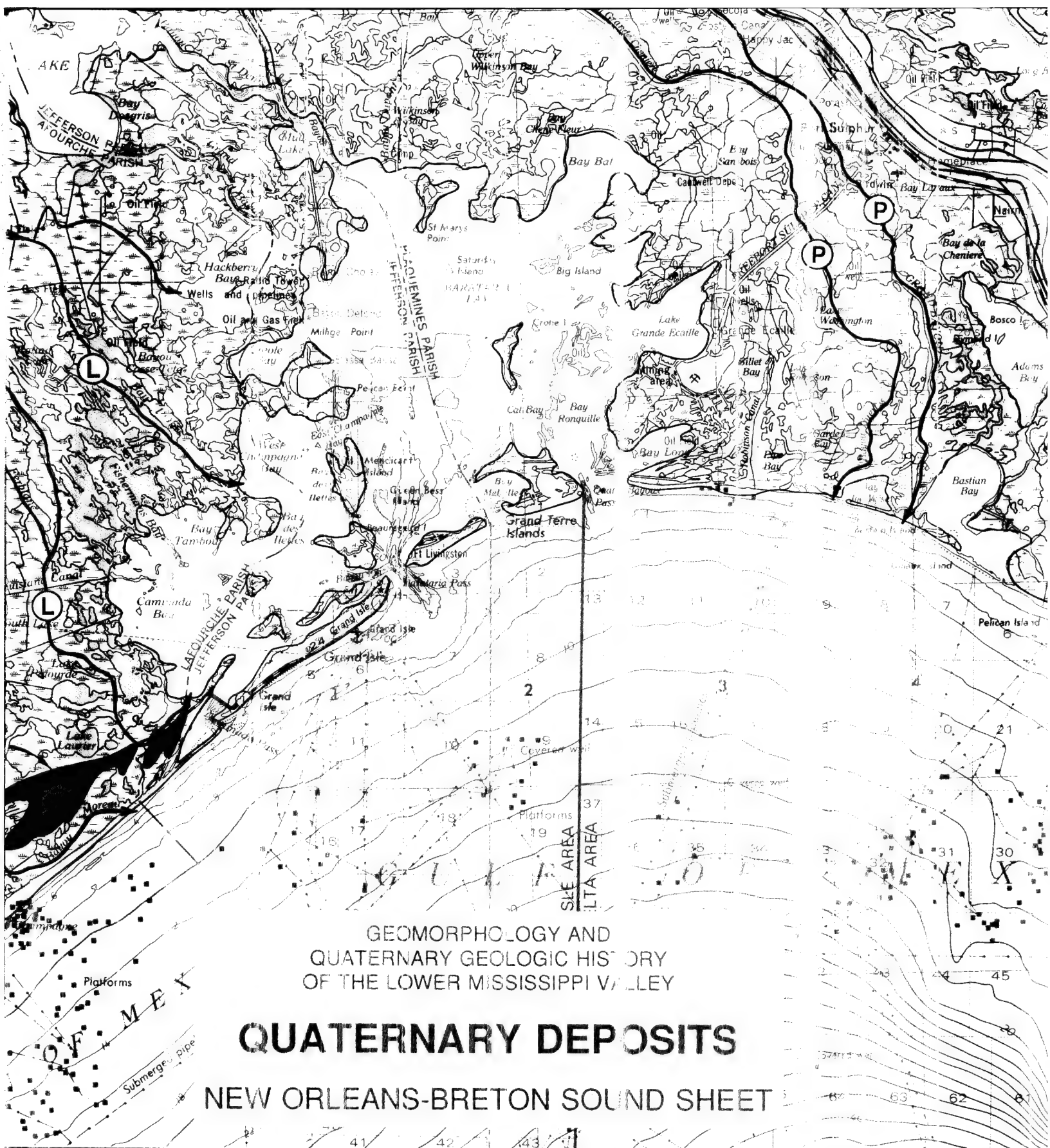




30'

15'





GEOMORPHOLOGY AND
QUATERNARY GEOLOGIC HISTORY
OF THE LOWER MISSISSIPPI VALLEY

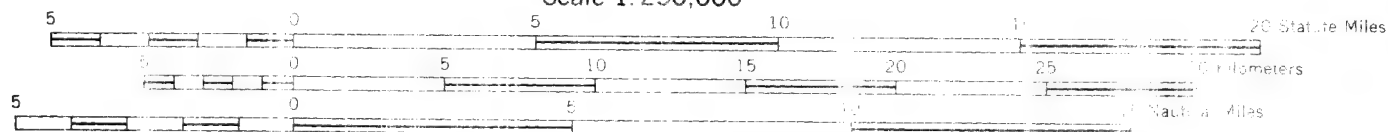
QUATERNARY DEPOSITS

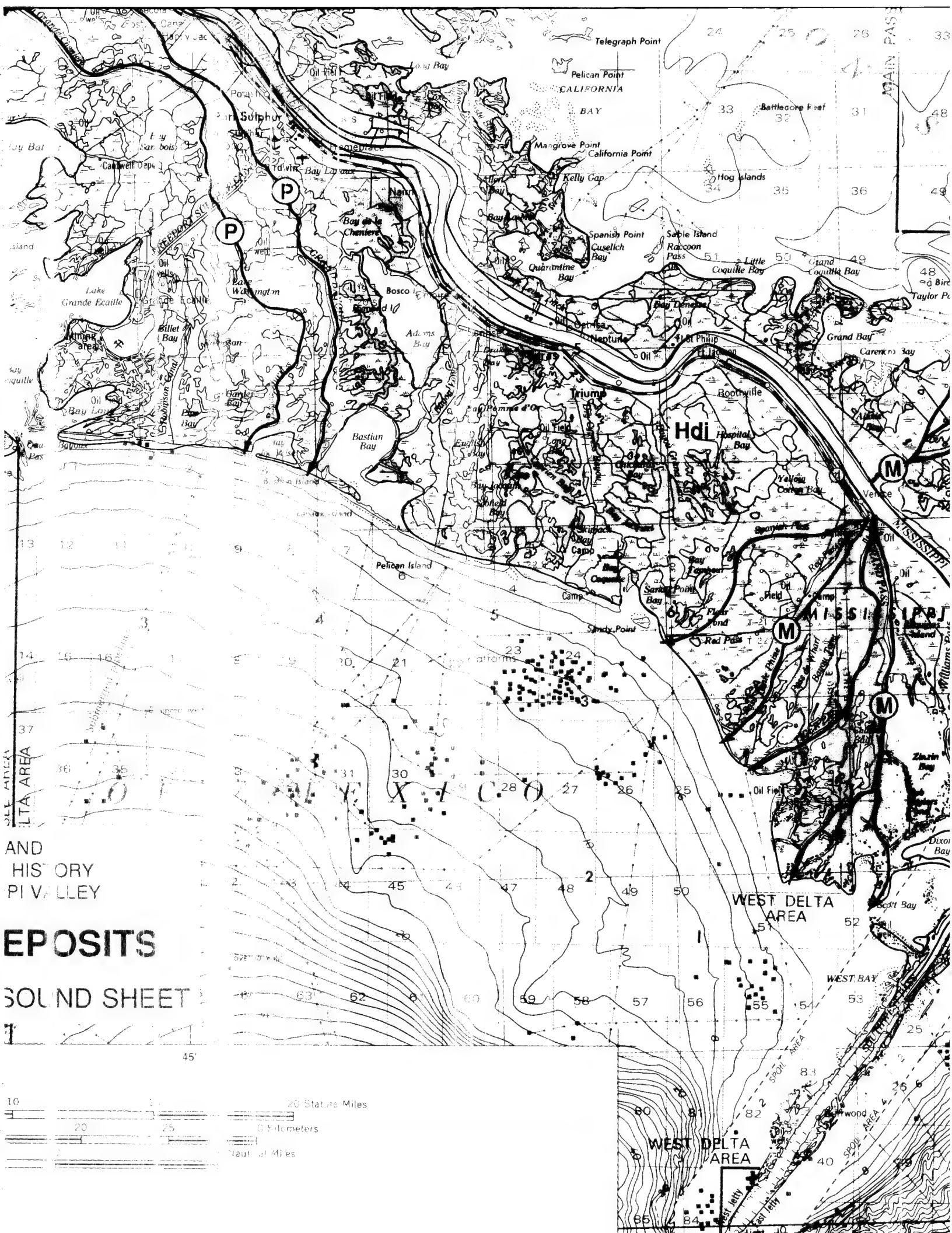
NEW ORLEANS-BRETON SOUND SHEET

90° 00'

45°

Scale 1:250,000



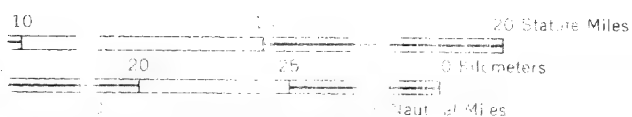


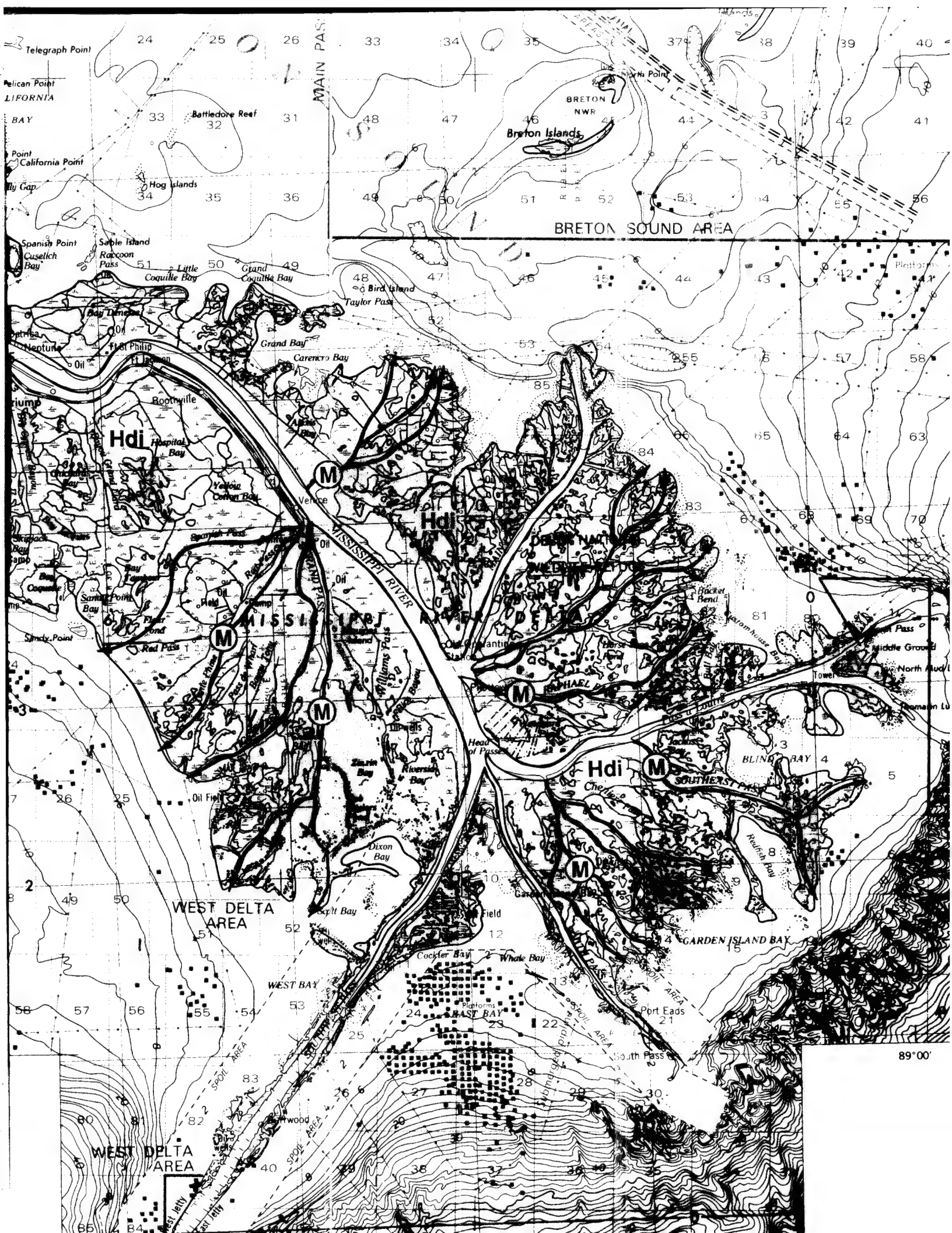
AND
HIS ORY
PI VALLEY

EPOSITS

SOUND SHEET

1





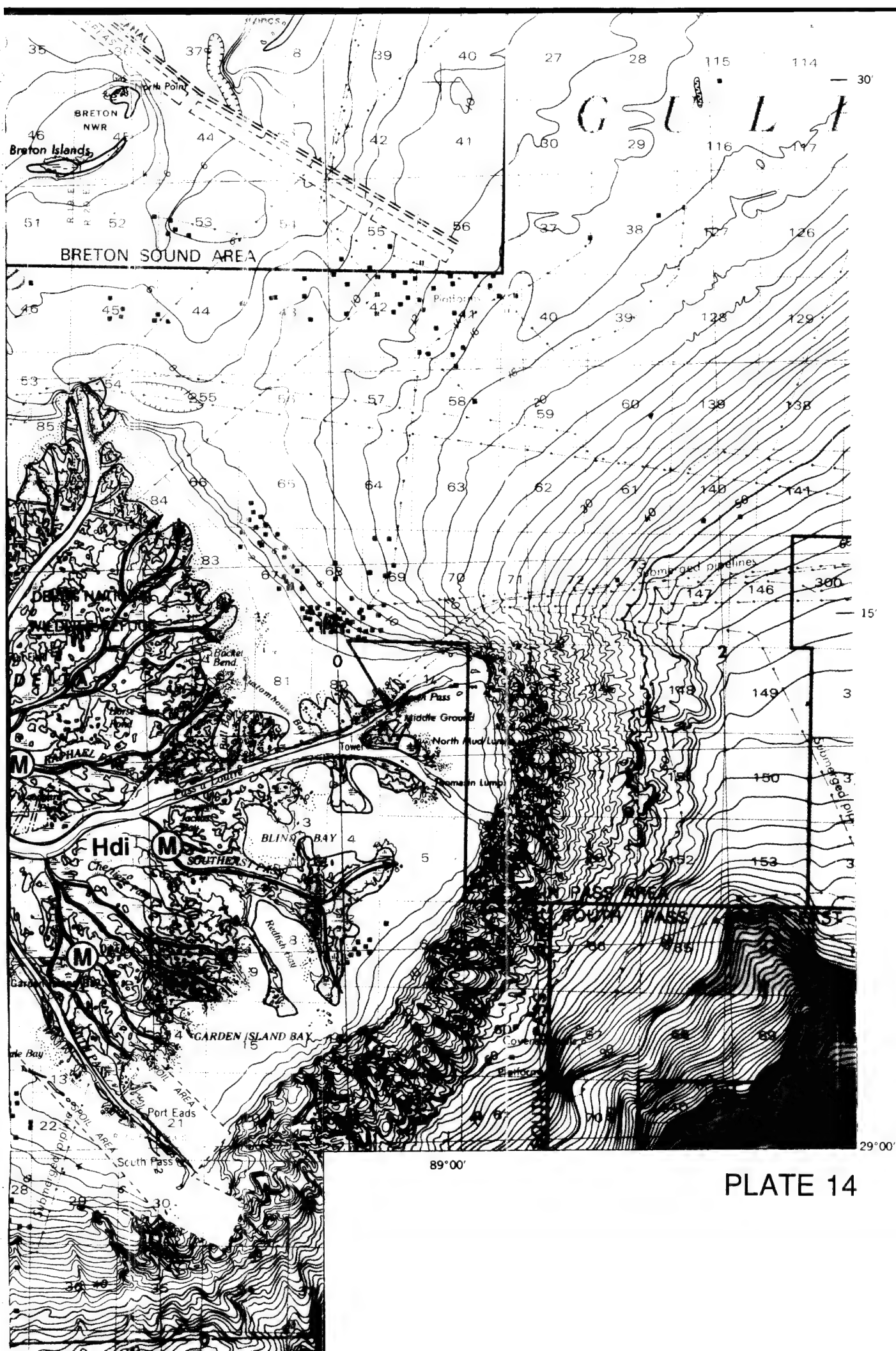
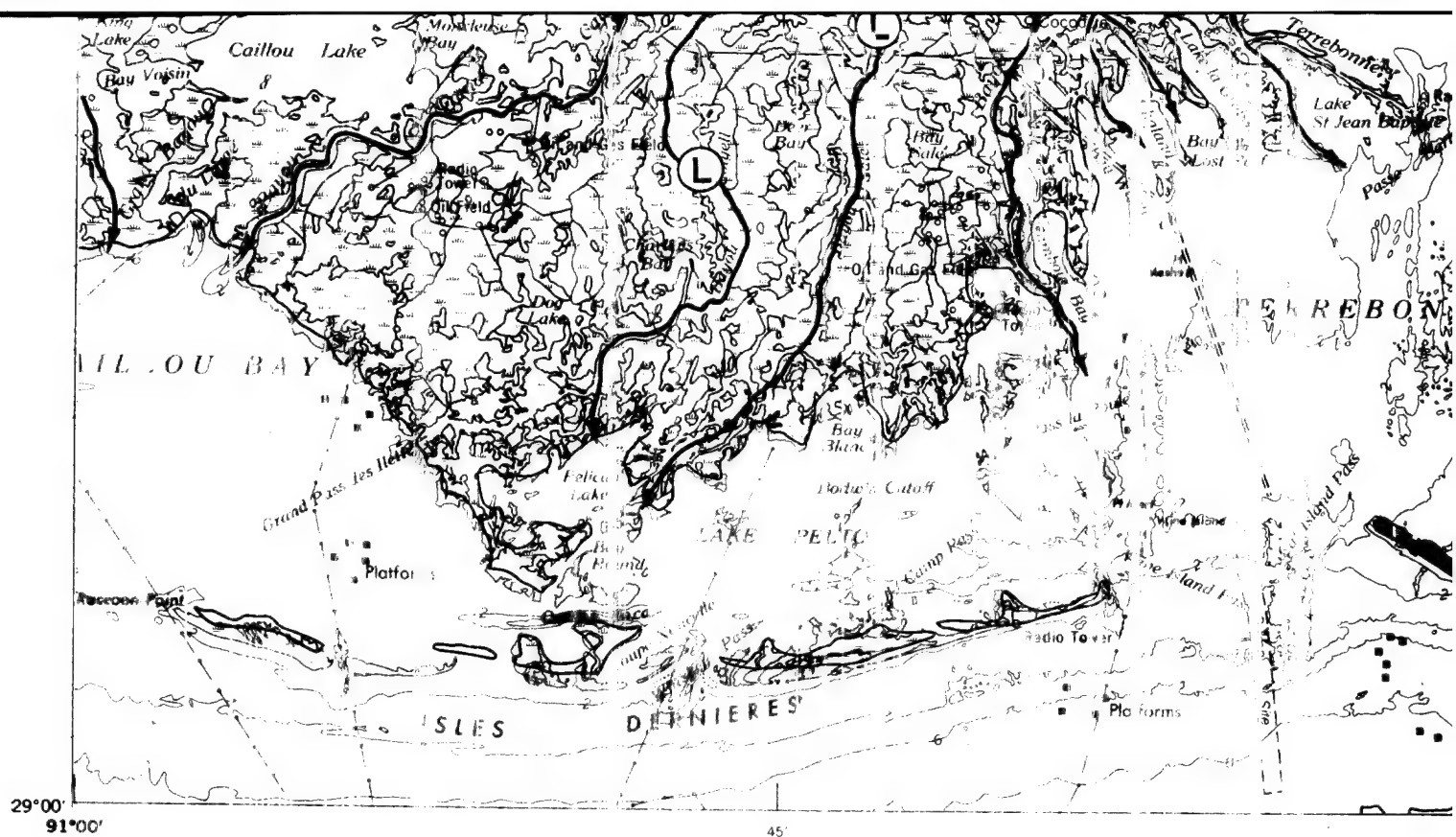
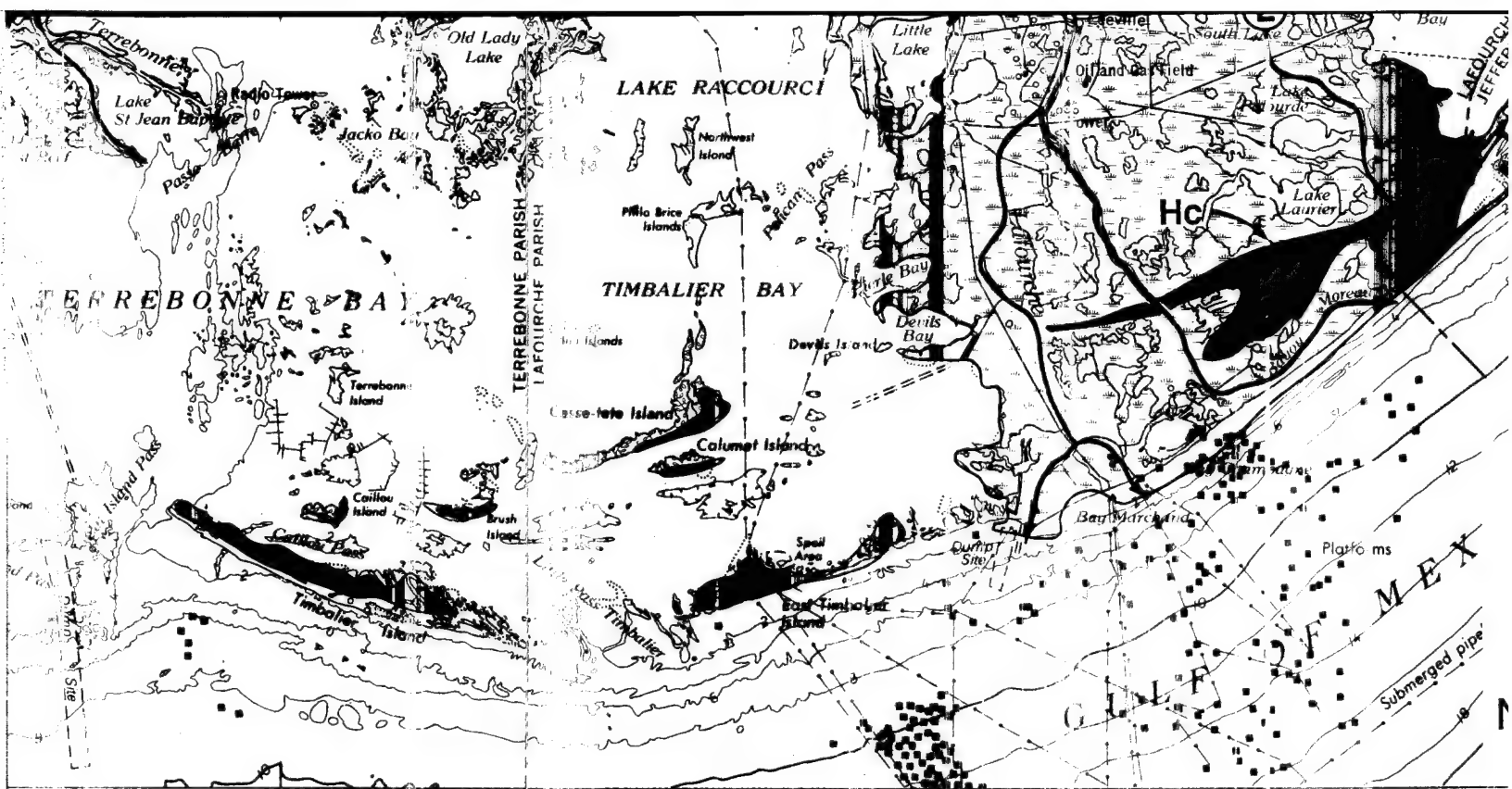


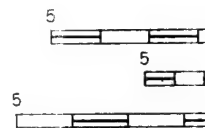
PLATE 14

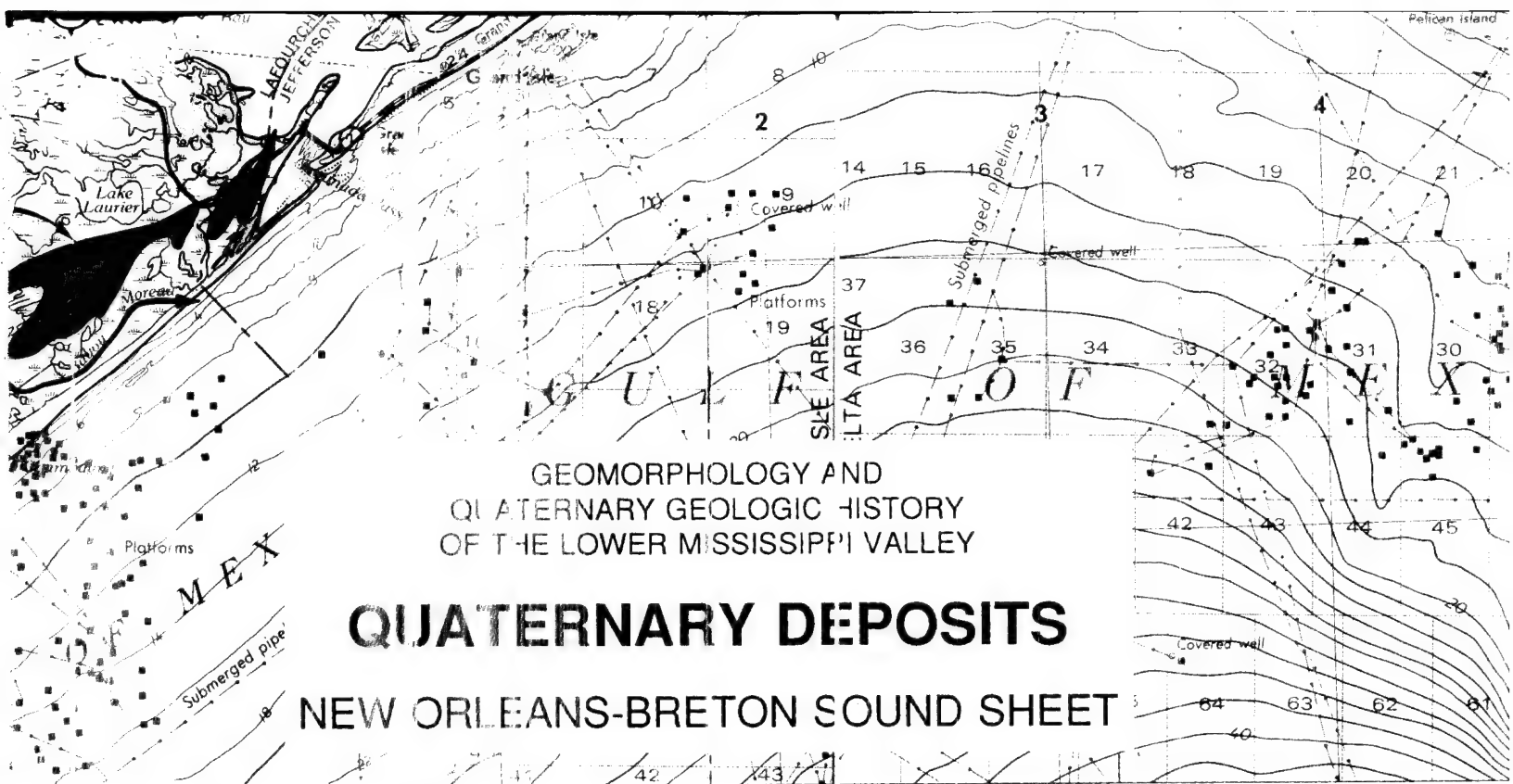




30°

15°





GEOMORPHOLOGY AND
QUATERNARY GEOLOGIC HISTORY
OF THE LOWER MISSISSIPPI VALLEY

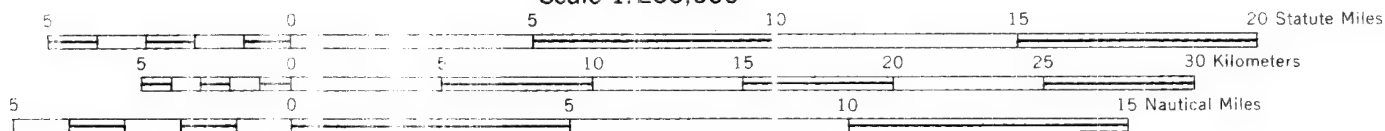
QUATERNARY DEPOSITS

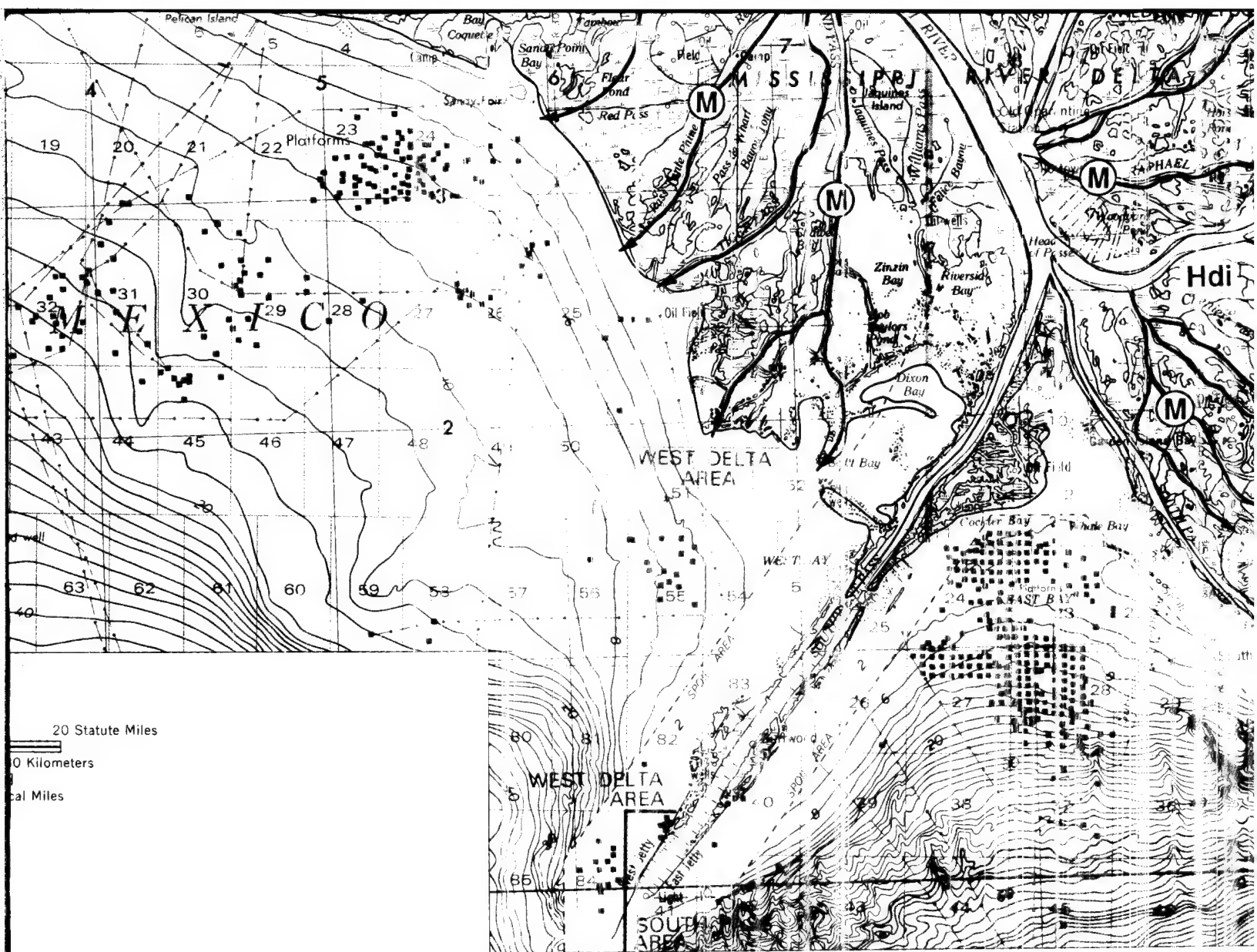
NEW ORLEANS-BRETON SOUND SHEET

90°00'

45'

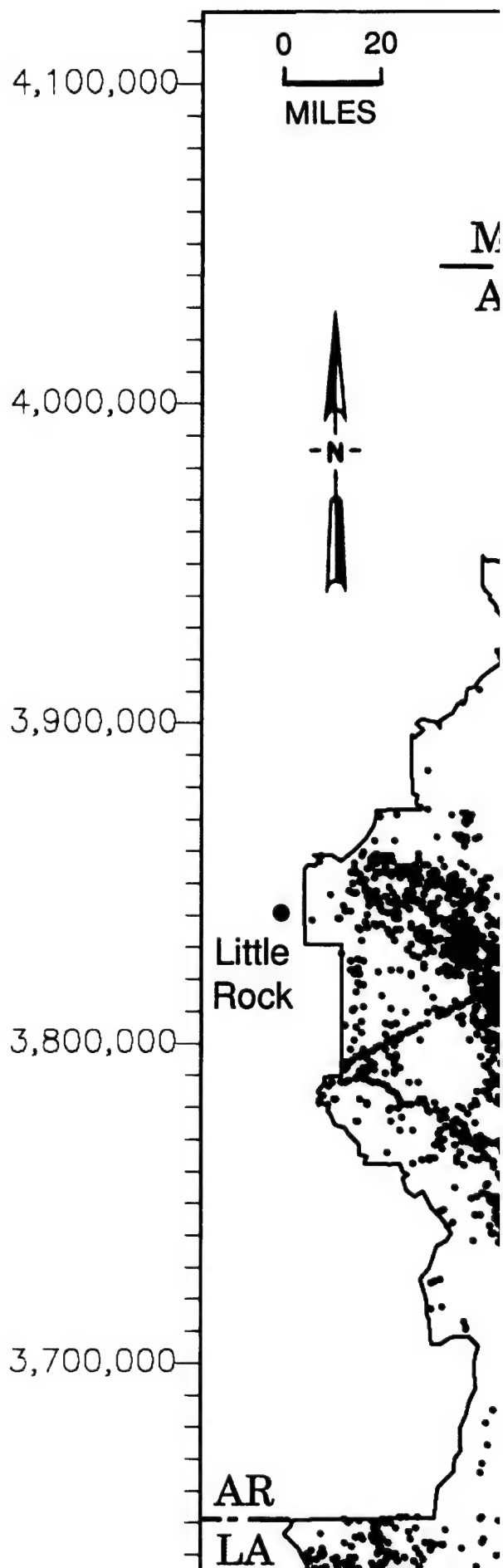
Scale 1:250,000

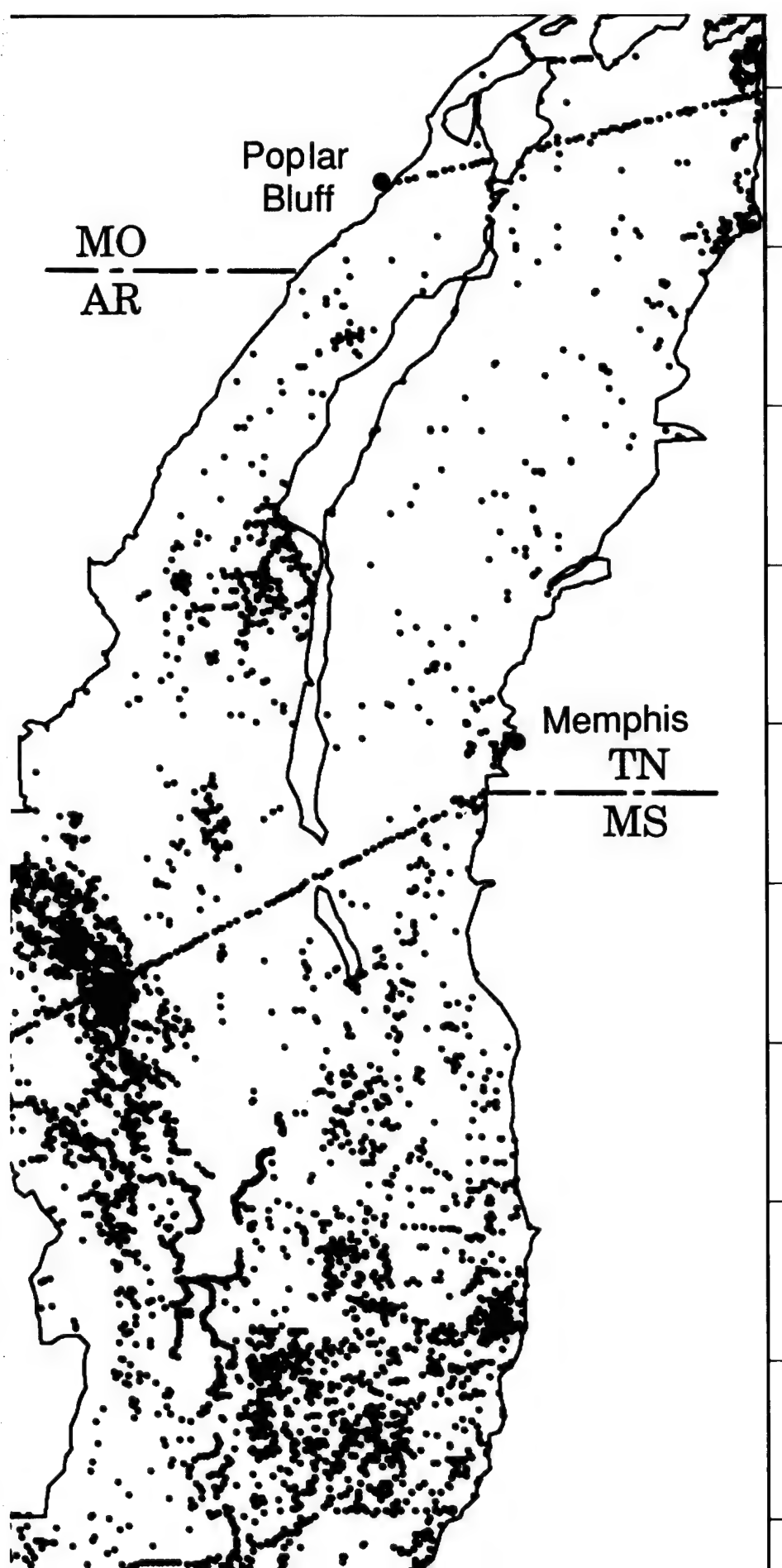






**CONTROL
POINTS**





4,100,000

4,000,000

3,900,000

3,800,000

3,700,000

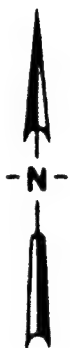
L
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A
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MILES

Poplar
Bluff

MO
AR

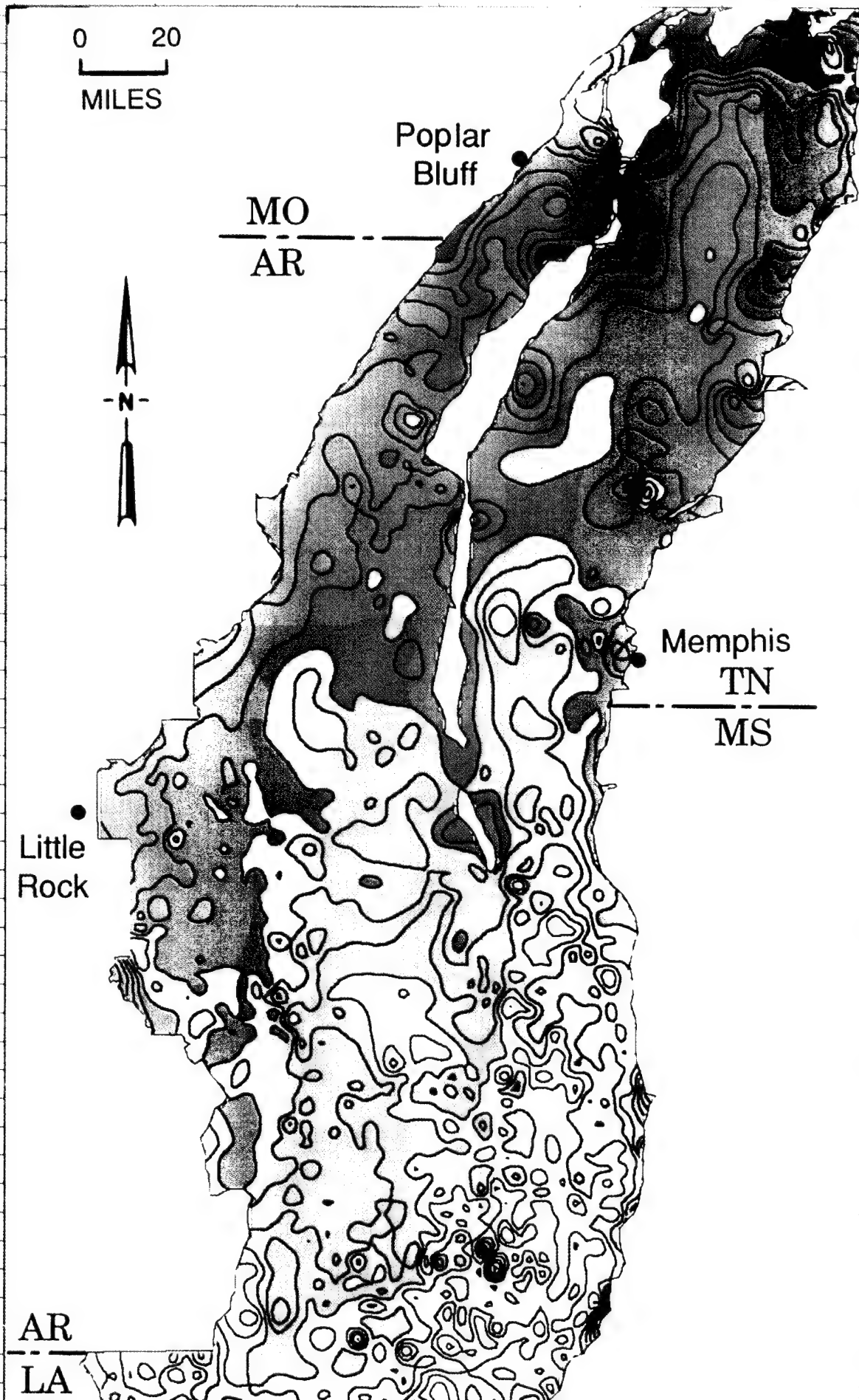


Memphis
TN
MS

Little
Rock

AR
LA

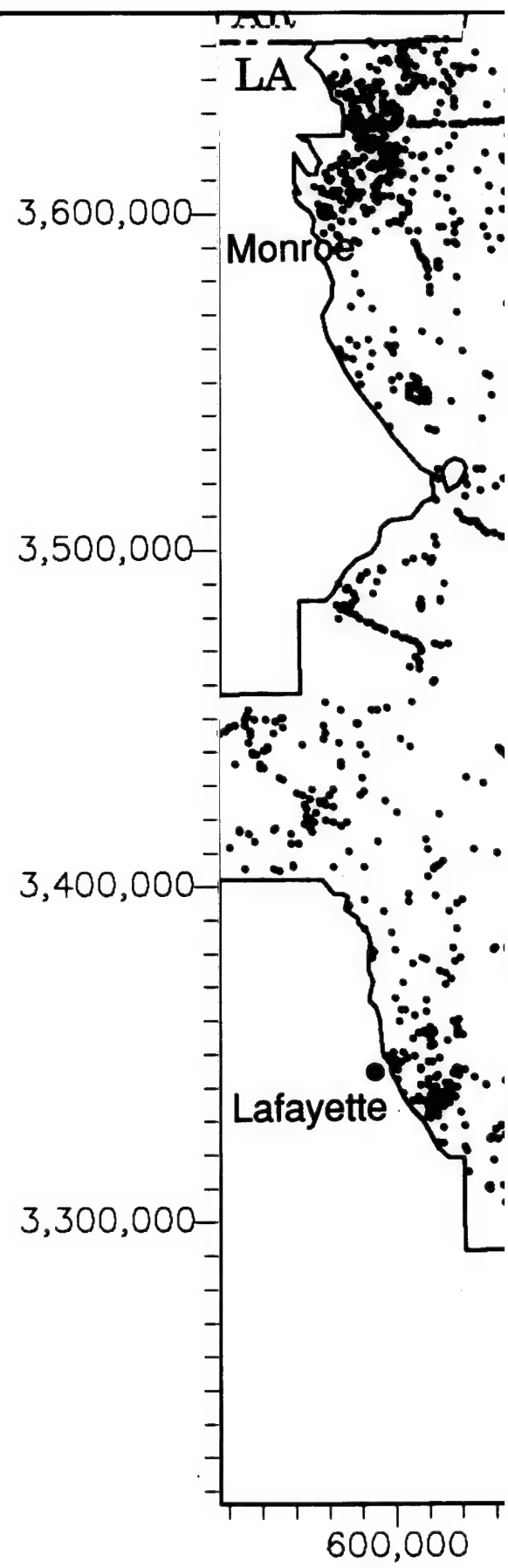
COMPUTER
CONTOURING

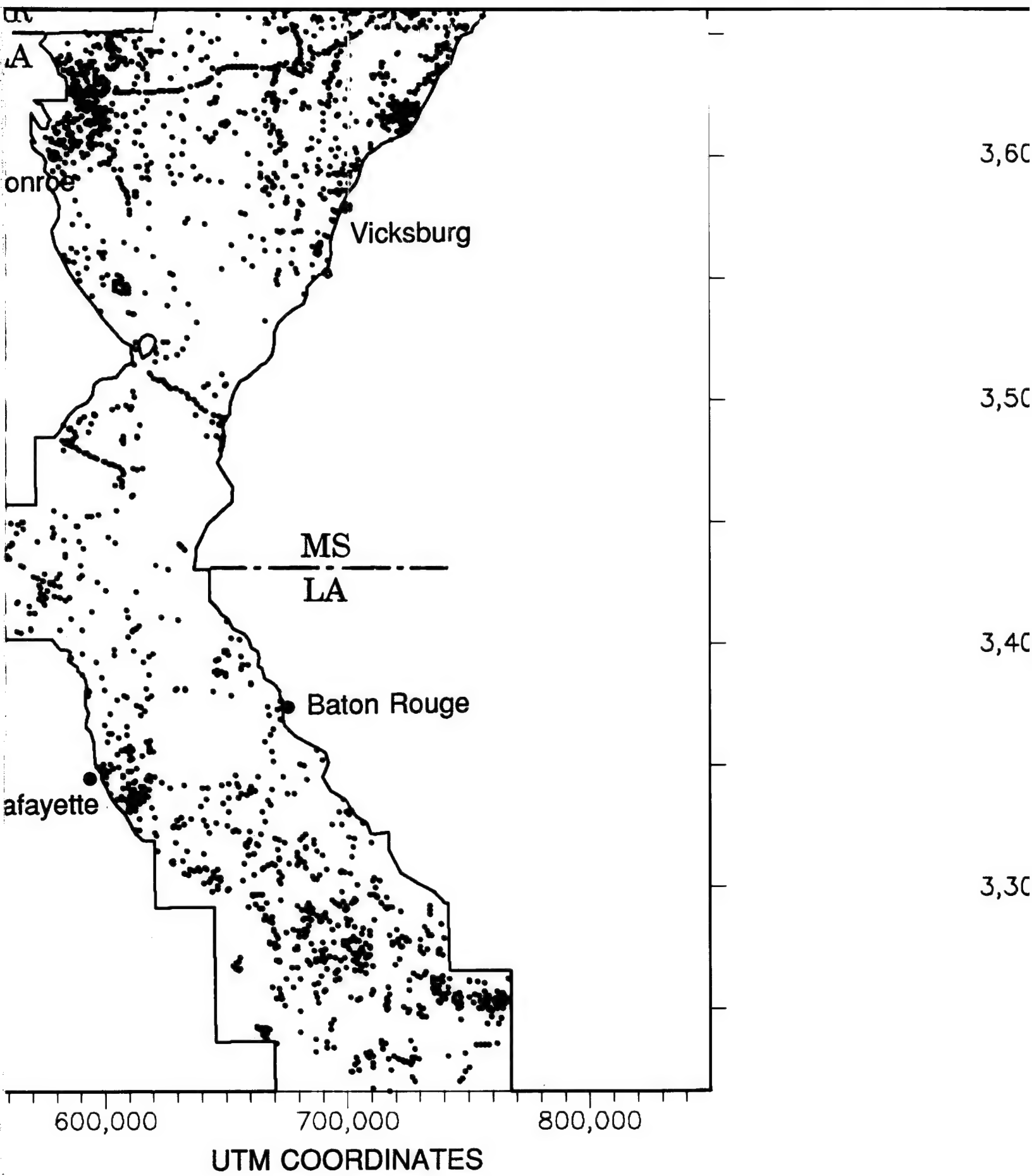


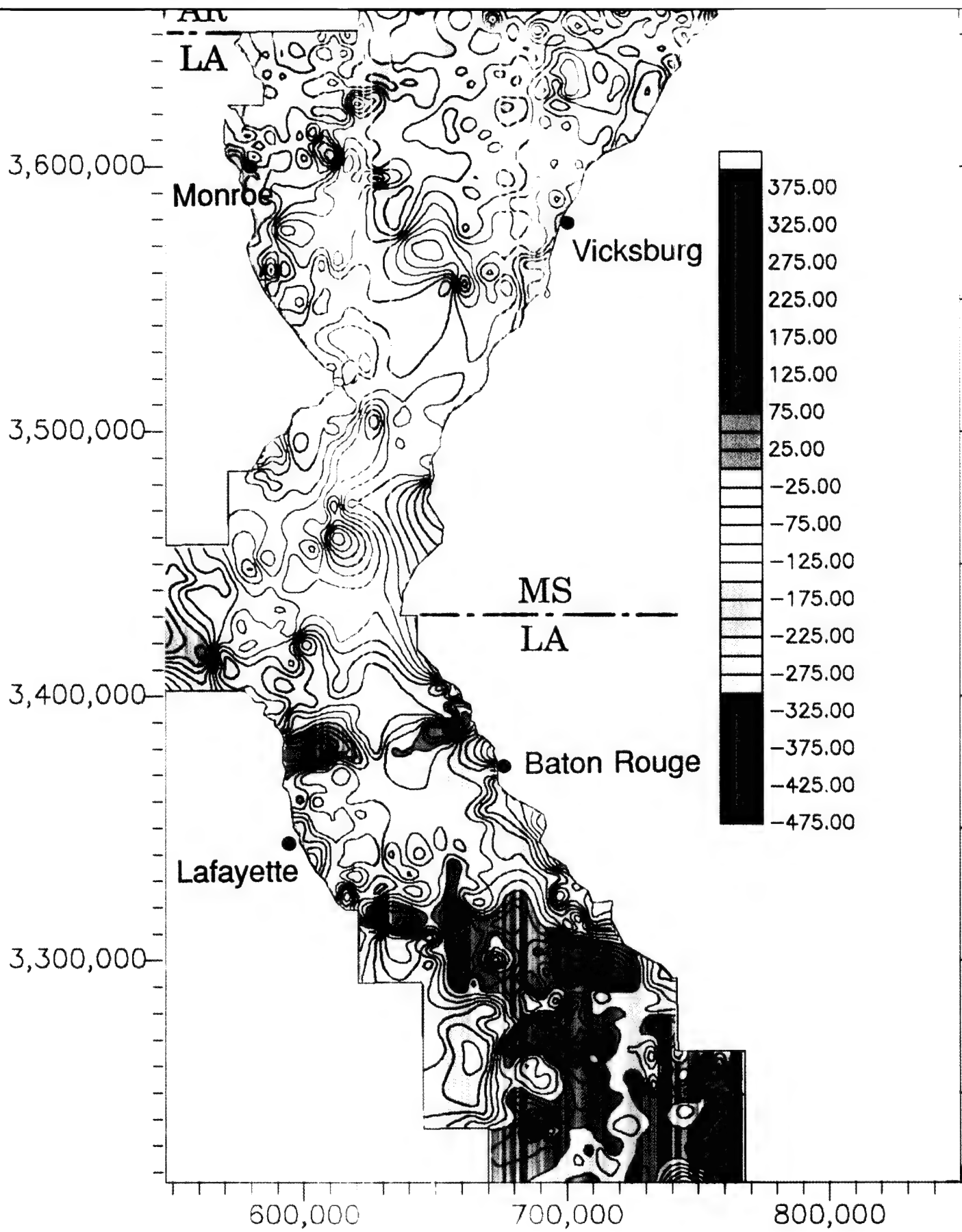


Memphis
TN
MS

COMPUTER CONTOURING





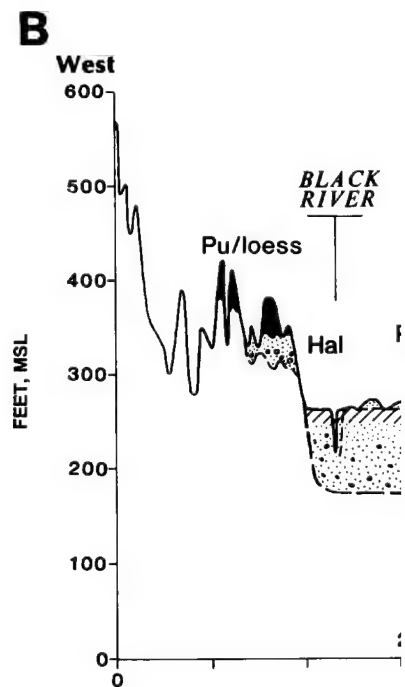
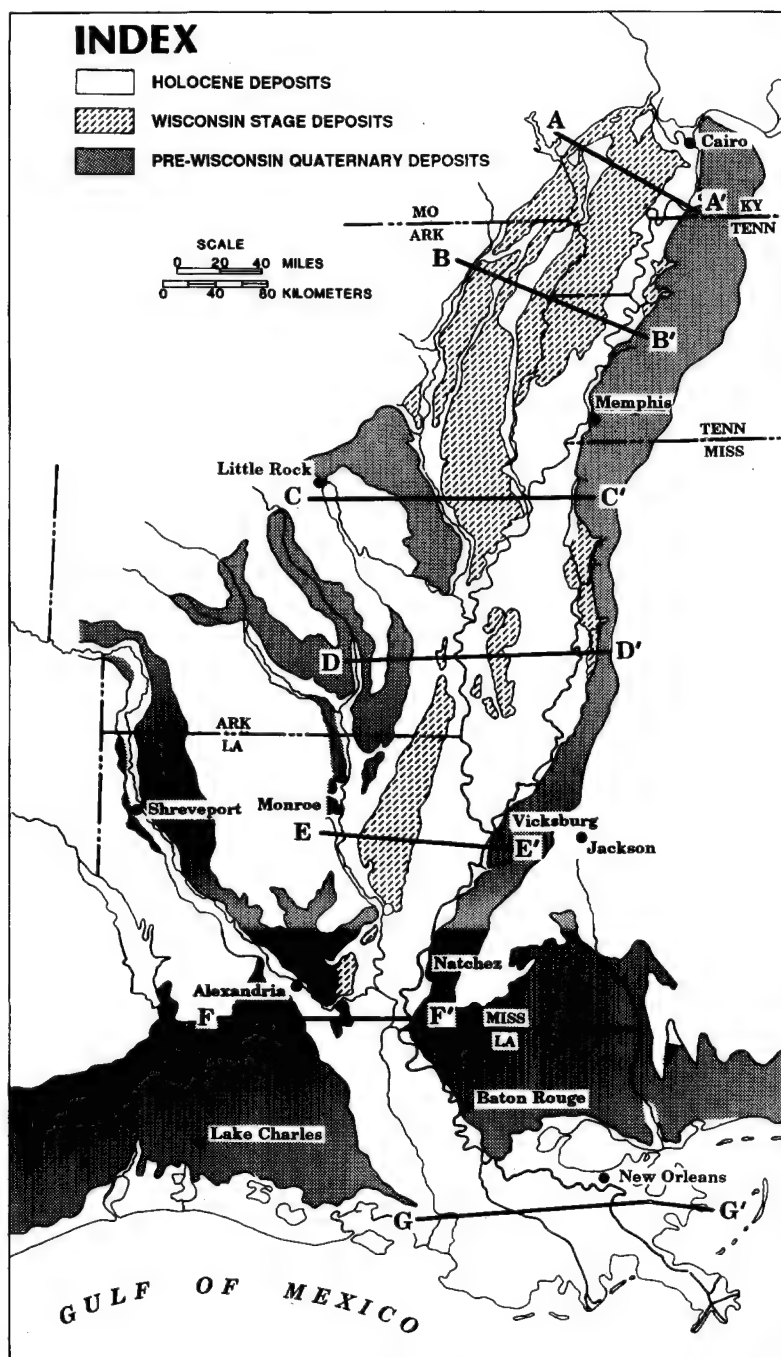


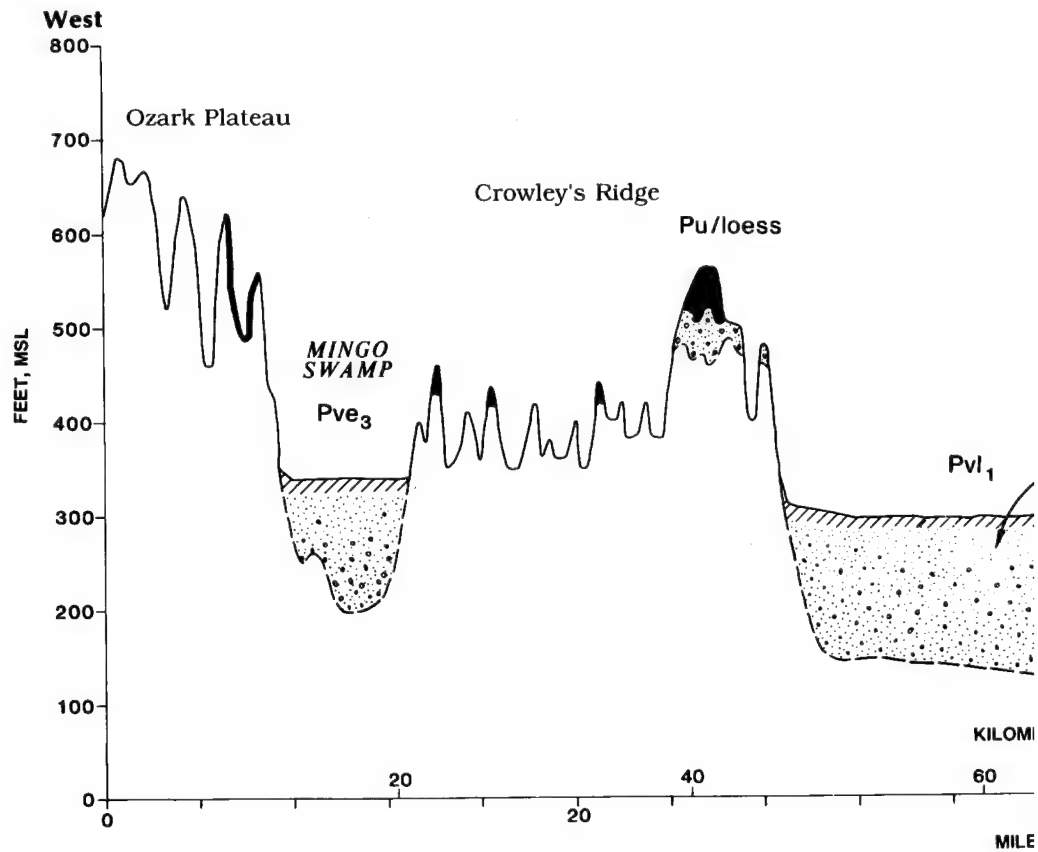
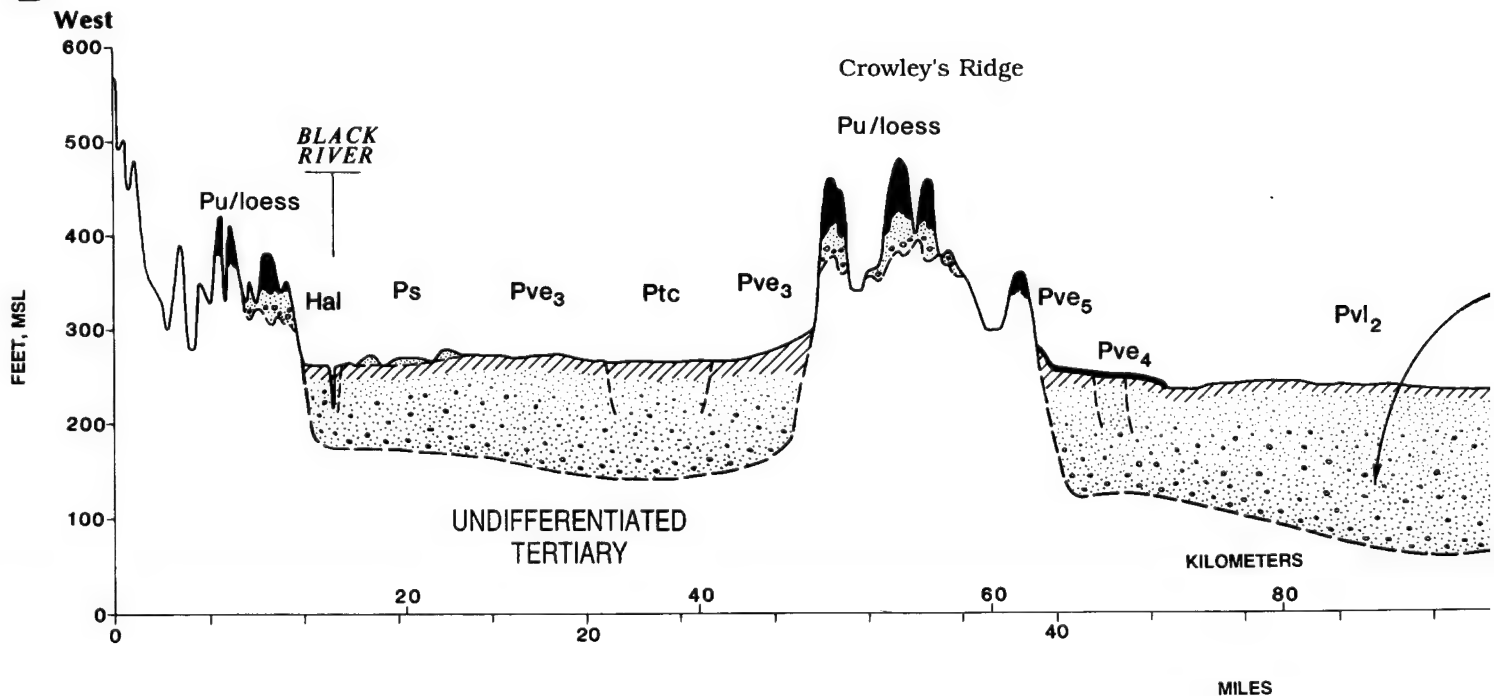
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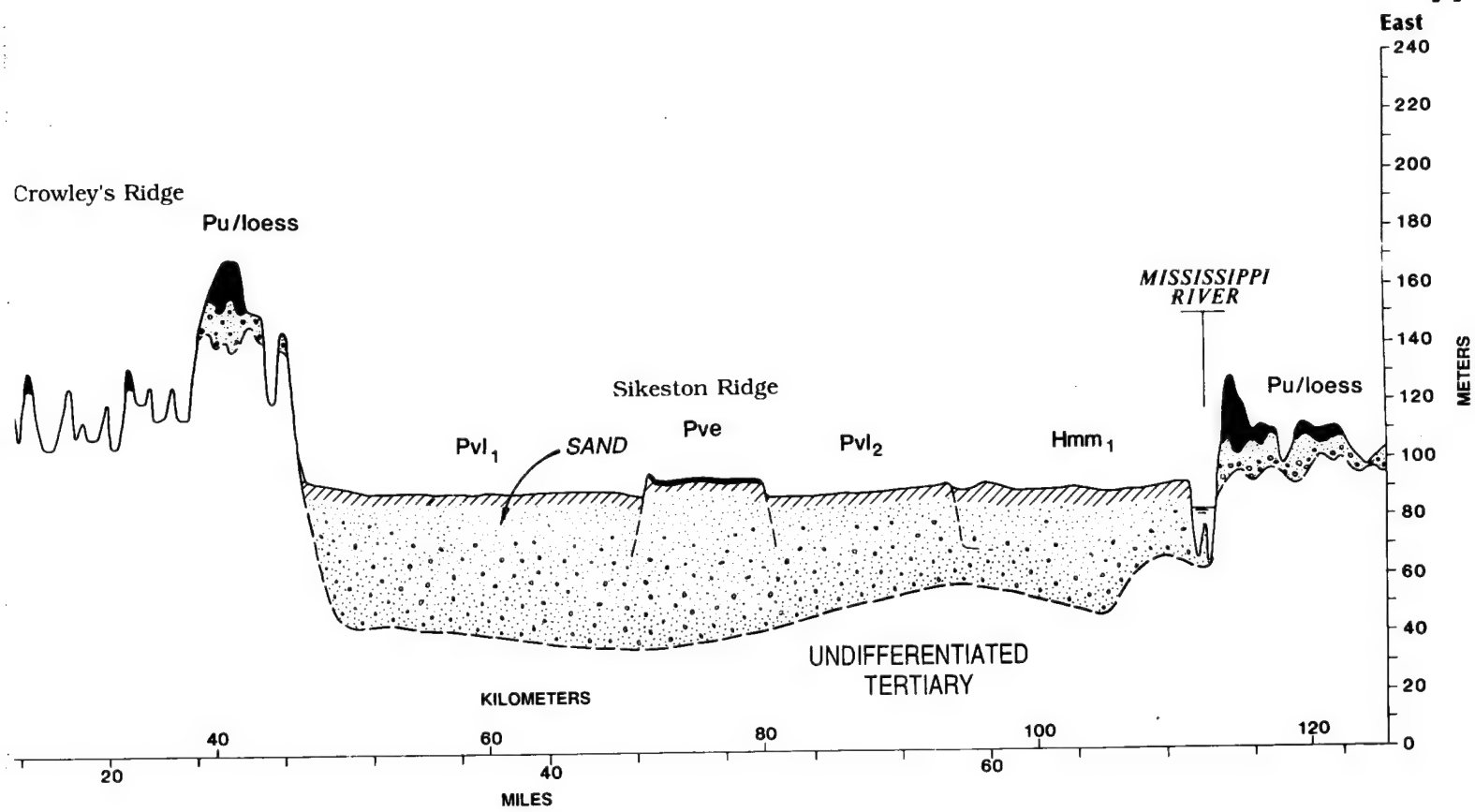
GEOMORPHOLOGY AND
QUATERNARY GEOLOGIC HISTORY
OF THE LOWER MISSISSIPPI VALLEY

**HYPSOMETRY OF THE
SUBALLUVIAL SURFACE**

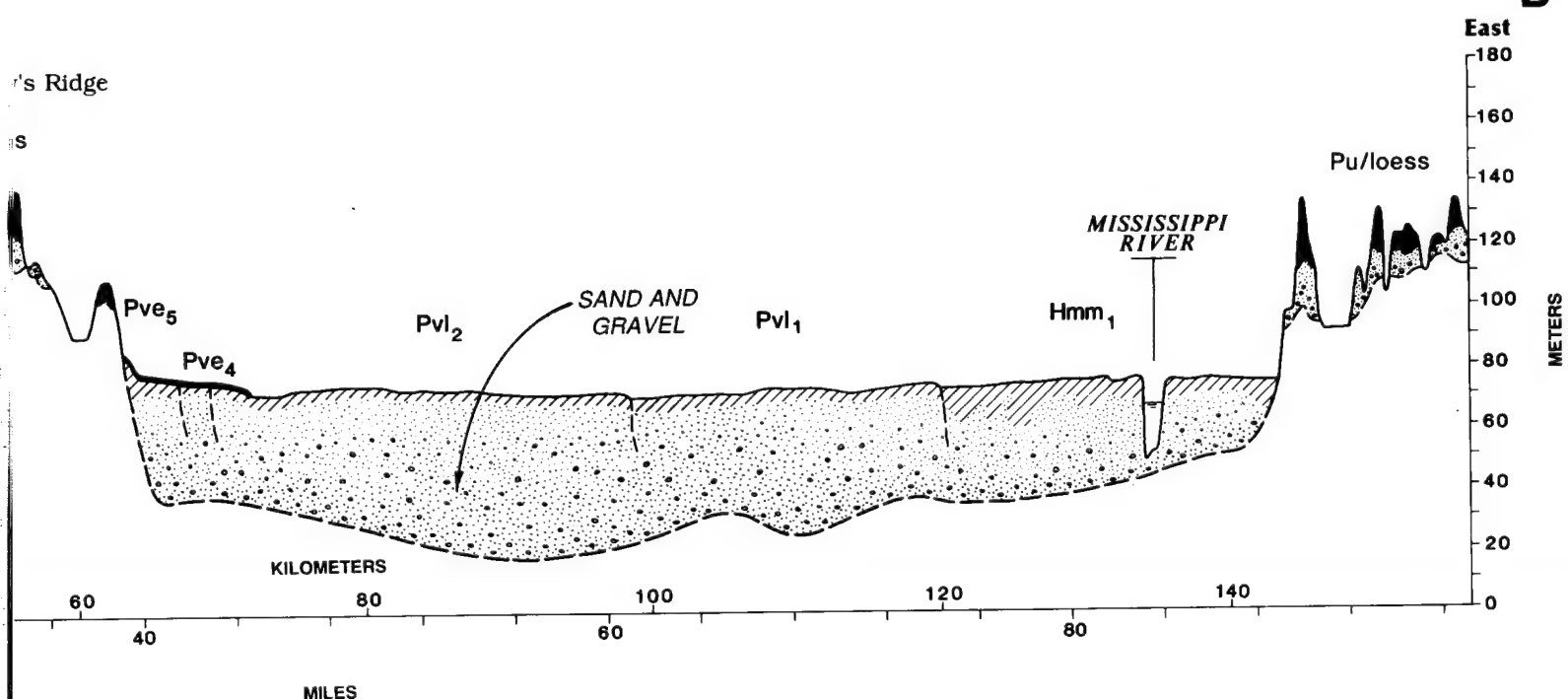


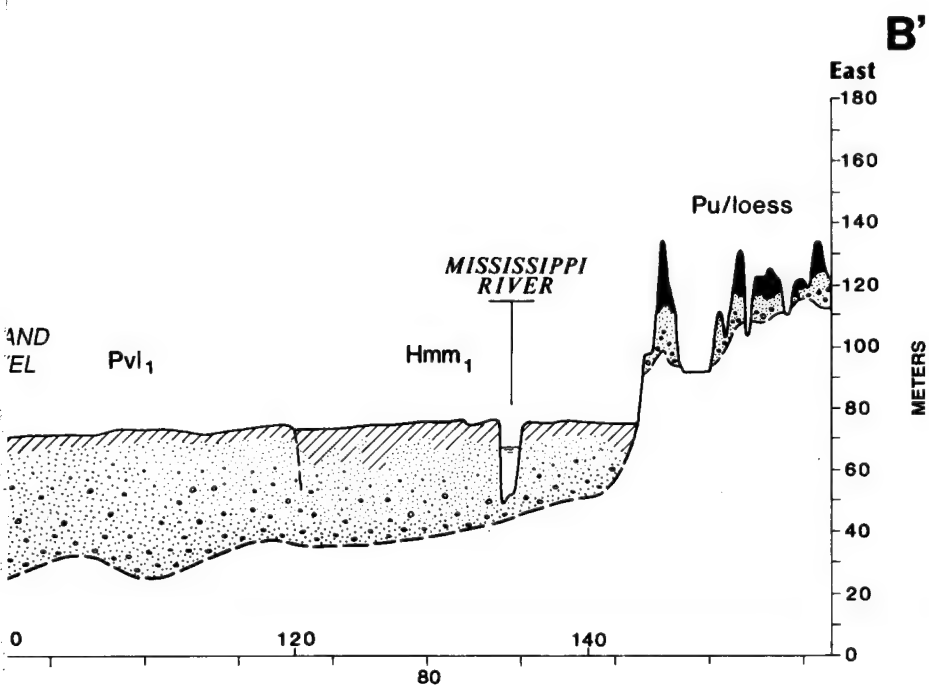
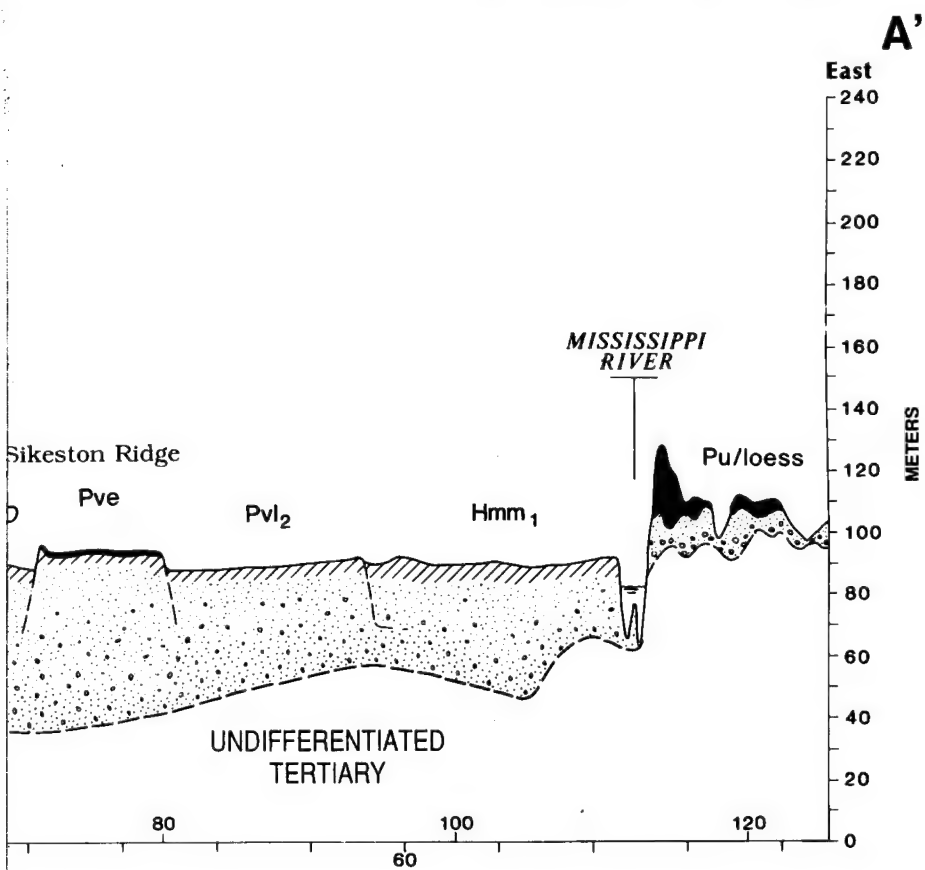
A**B**

A'



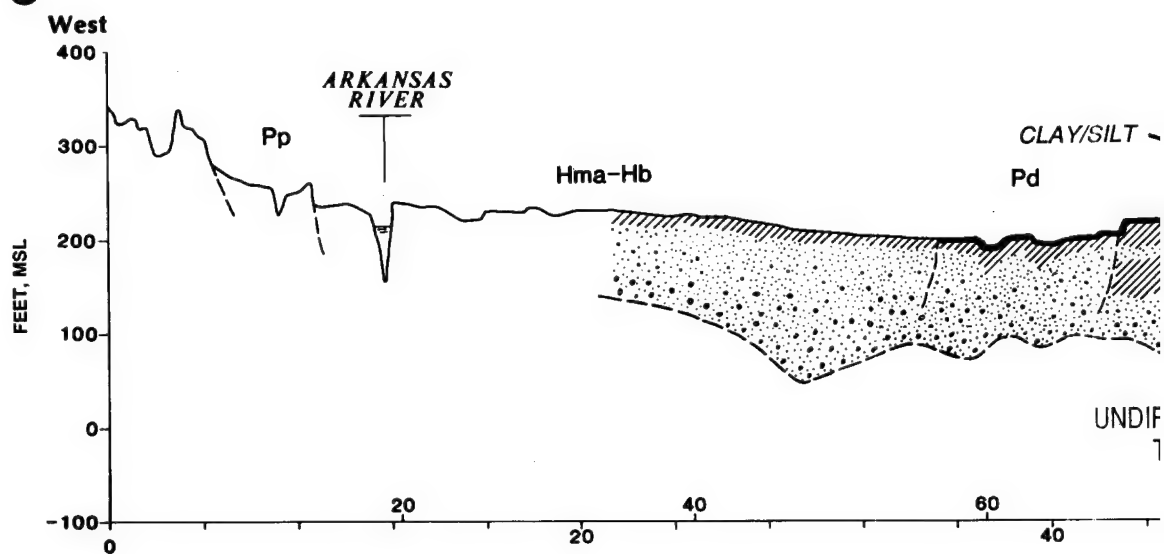
B'



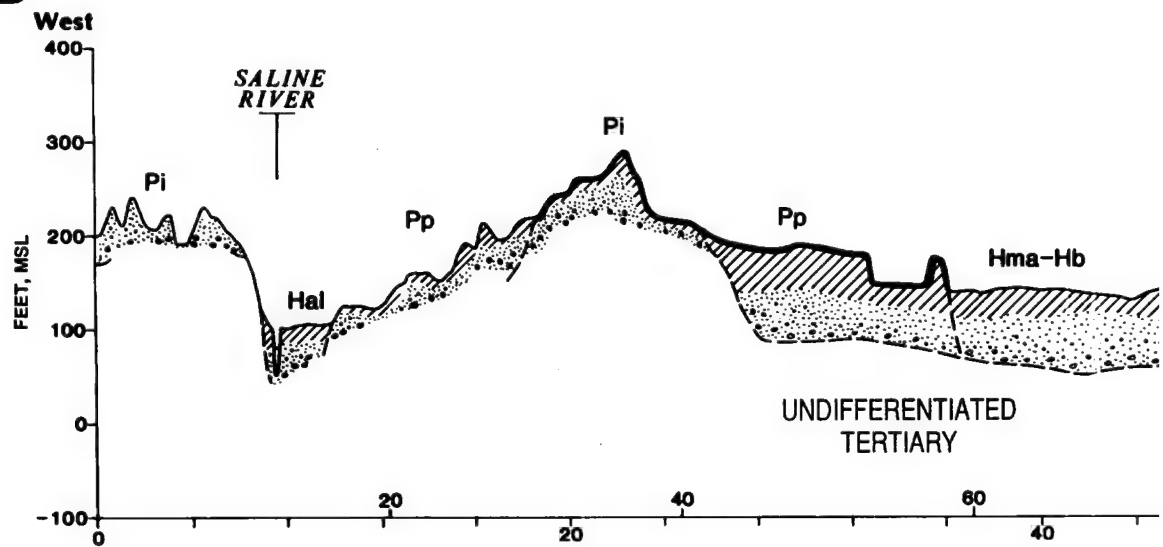


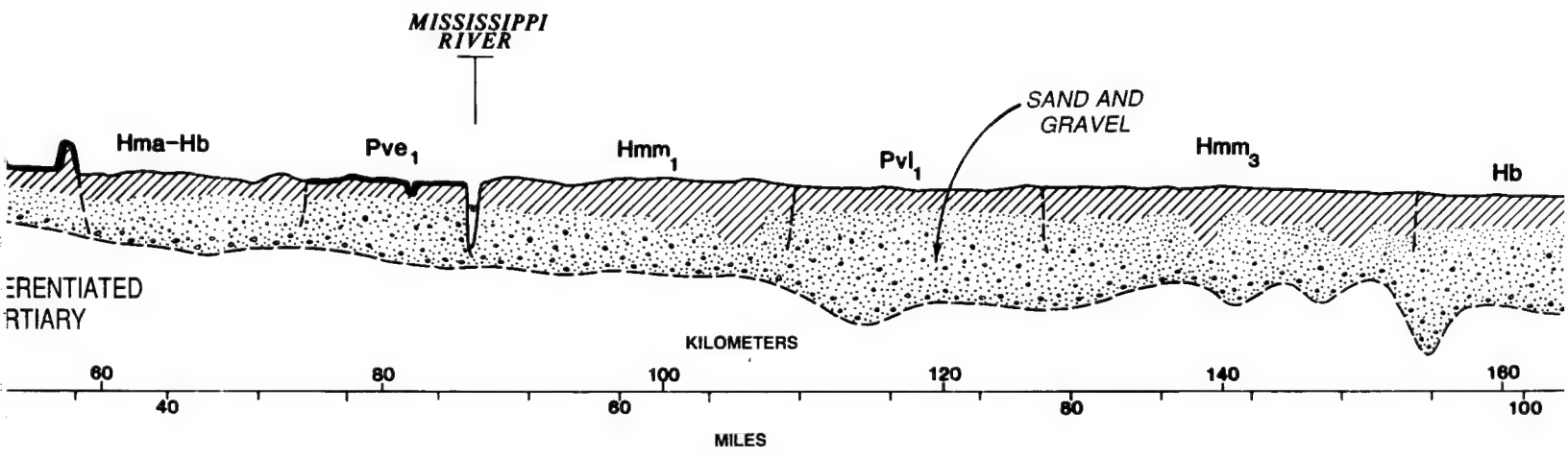
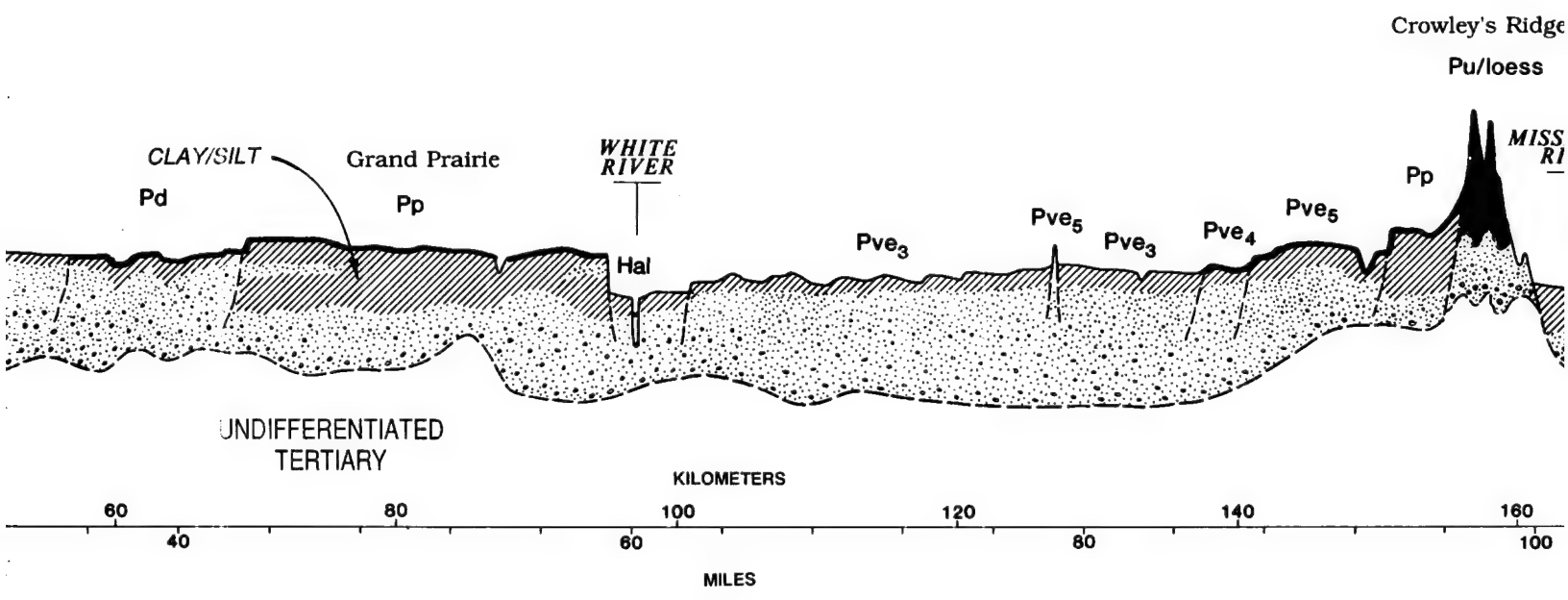
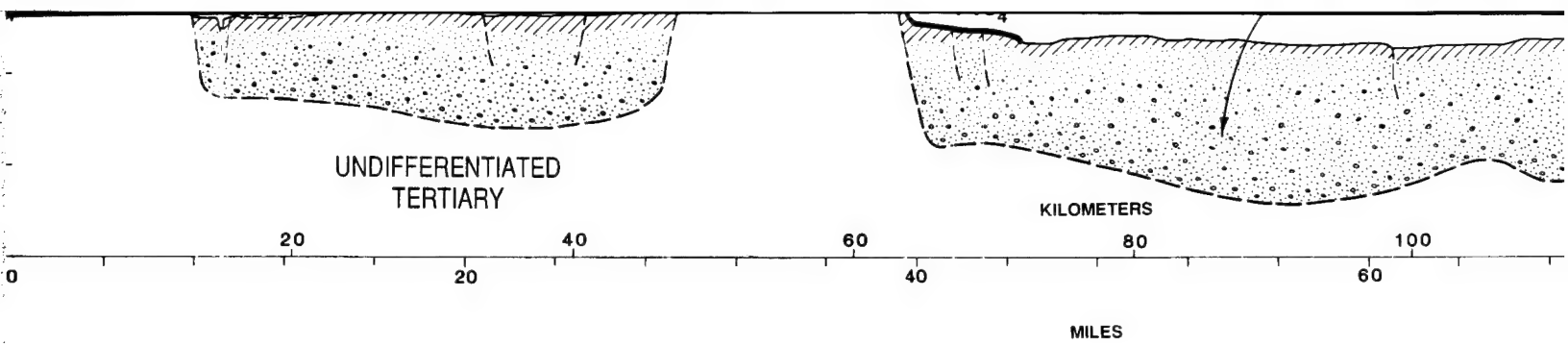
200-
100-
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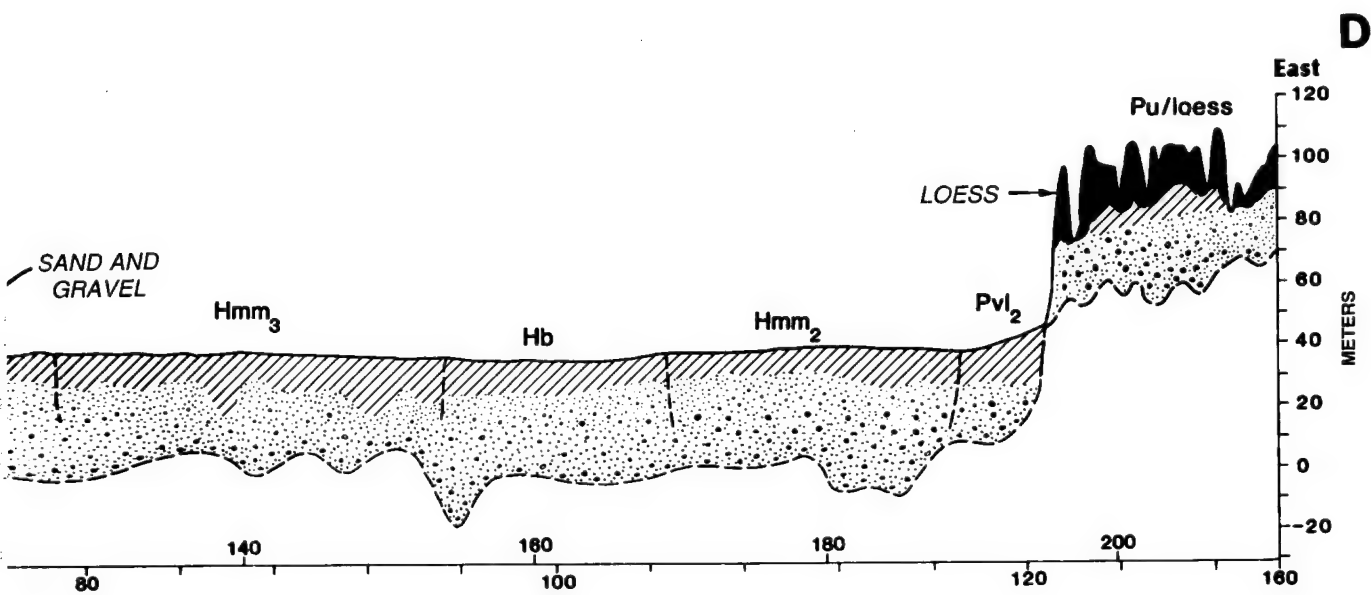
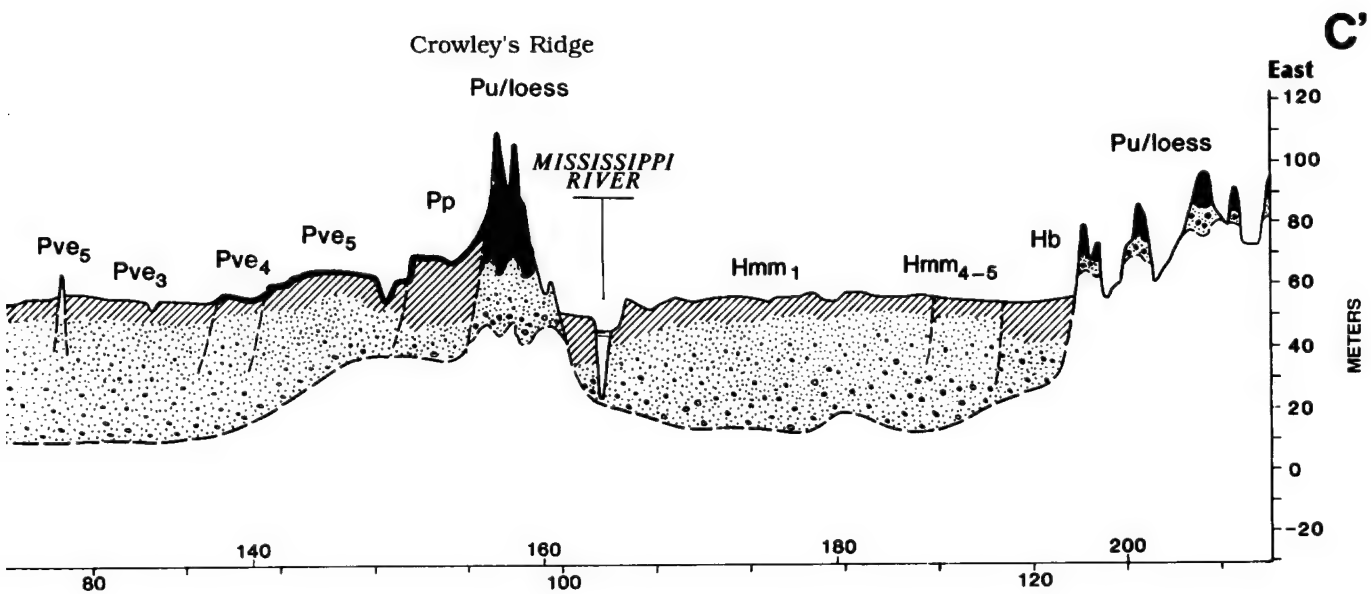
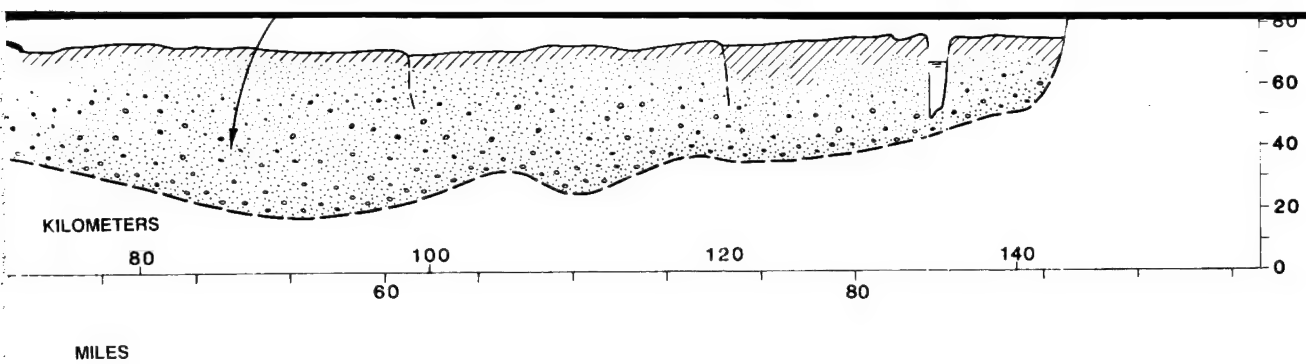
C

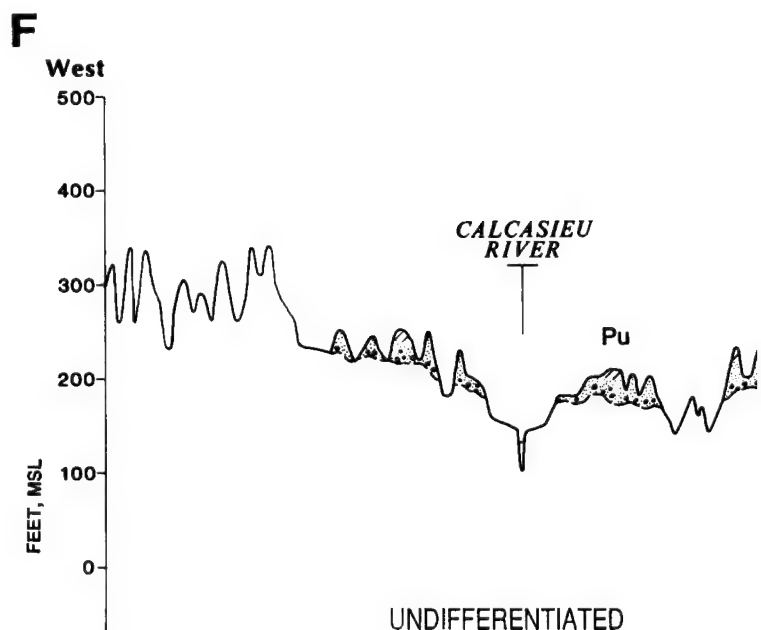
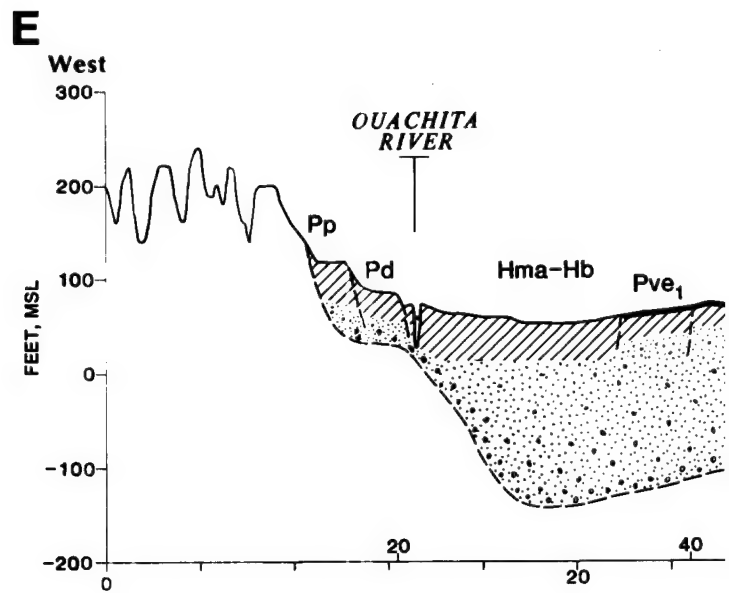
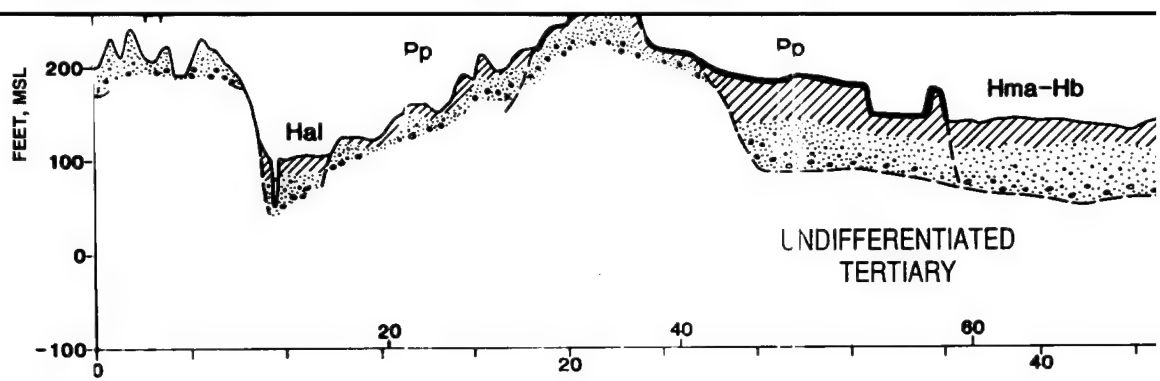


D





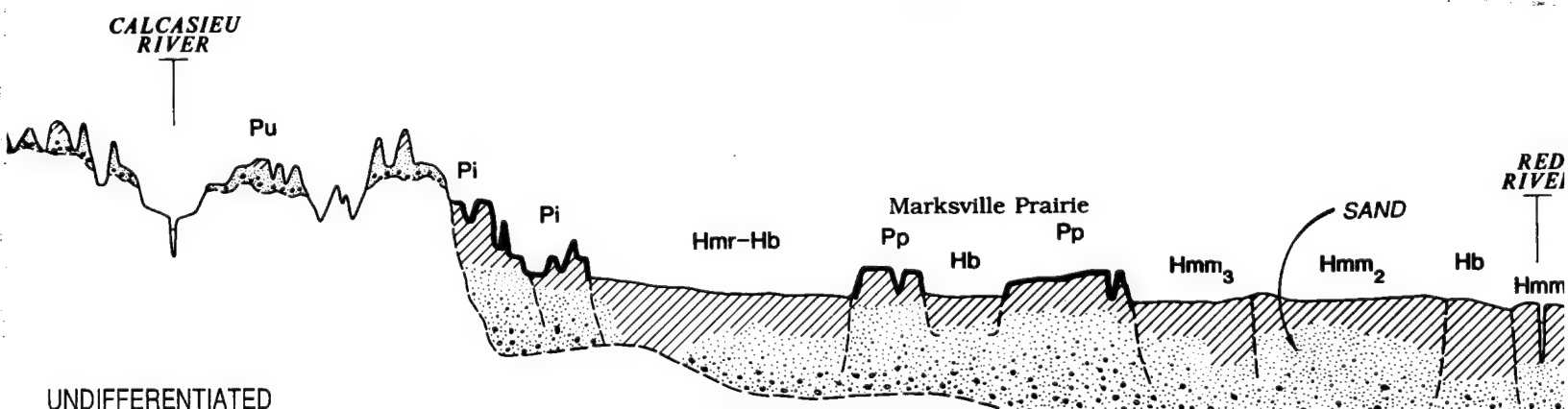
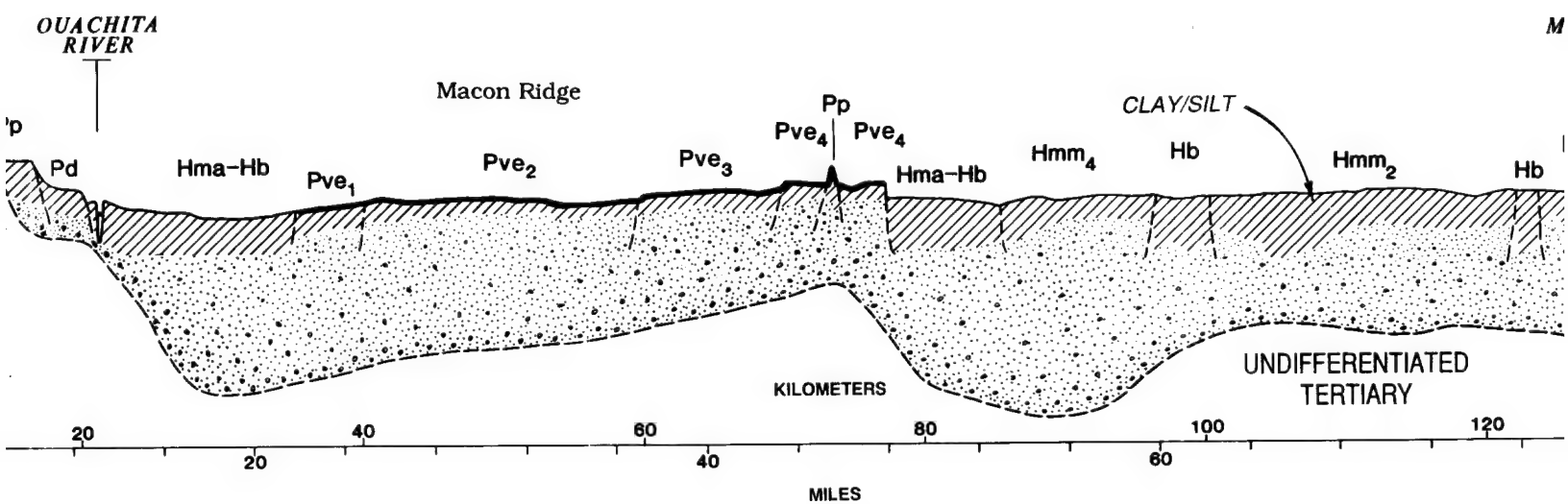
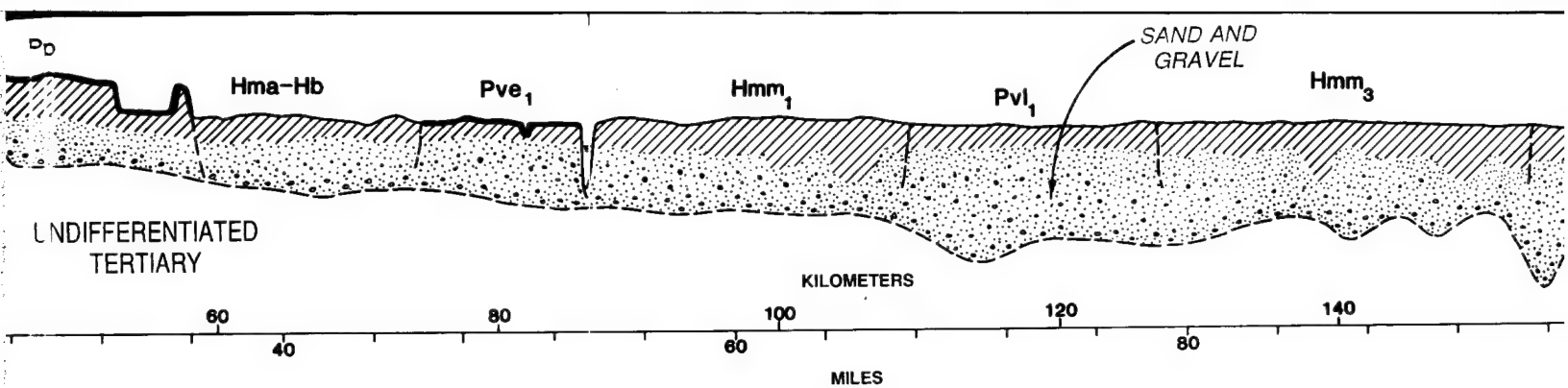


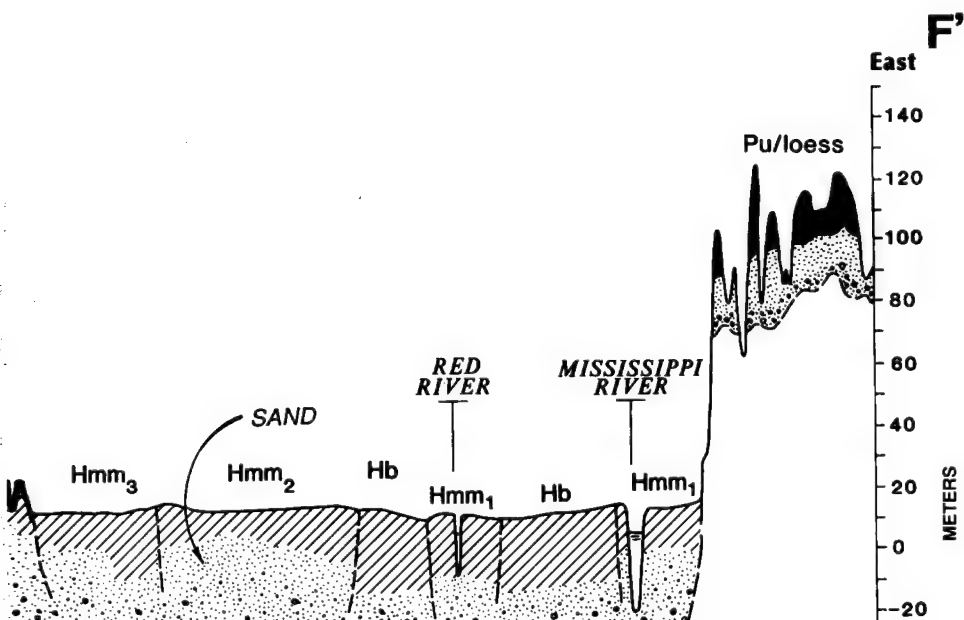
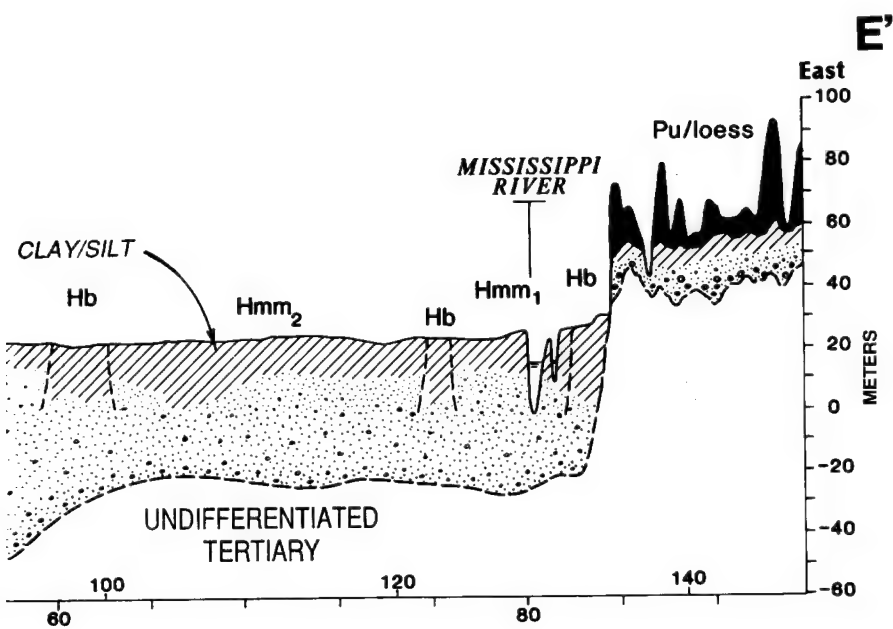
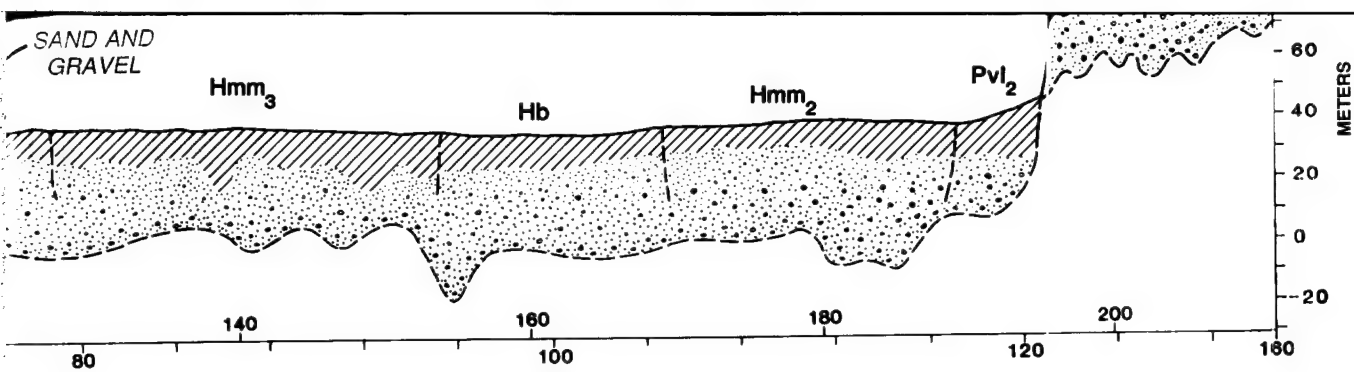


NOTES: See Plate 4 for key to map units.

Topstratum not differentiated according to depositional environments in alluvial valley area (Sections A-A' to F-F').

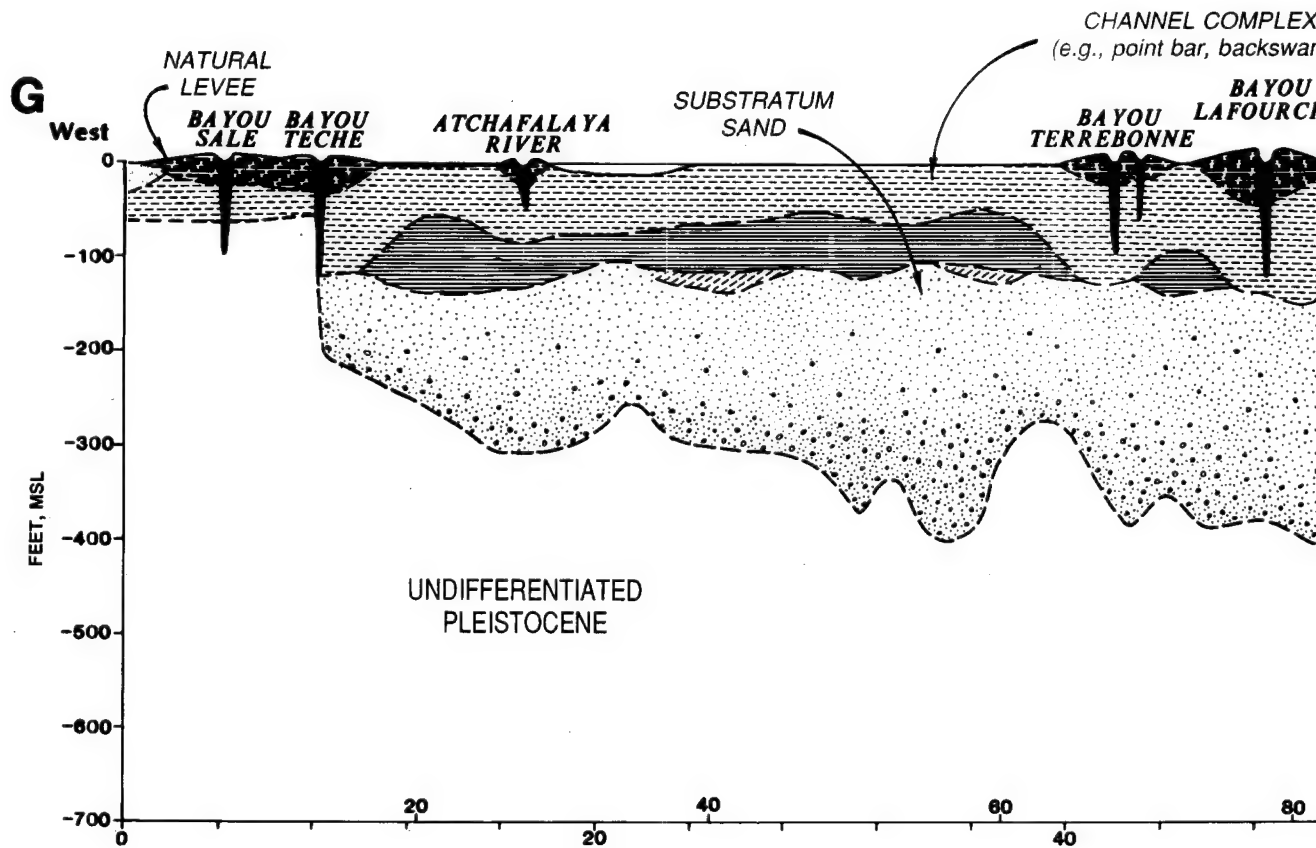
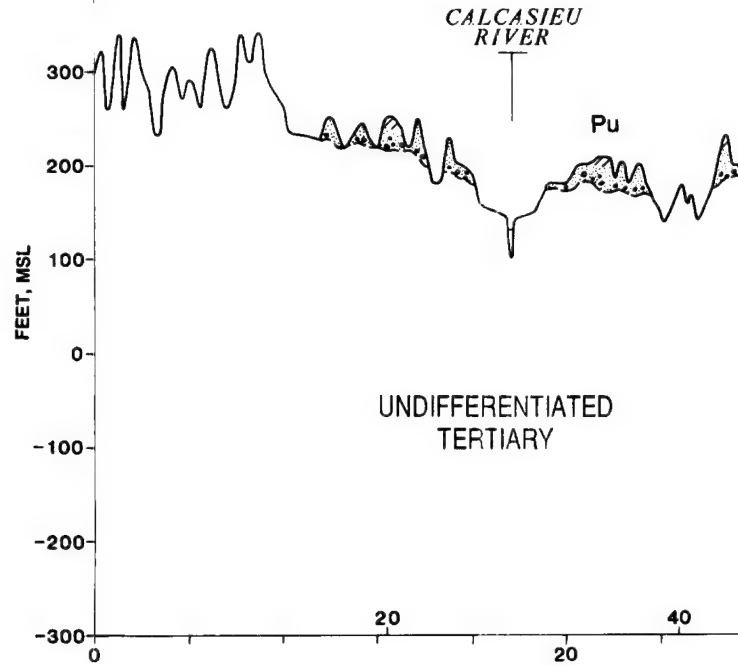
GEOMORPHOLOGY AND QUATERNARY GEOLOGIC HISTORY OF THE LOWER MISSISSIPPI VALLEY TYPICAL CROSS SECTIONS

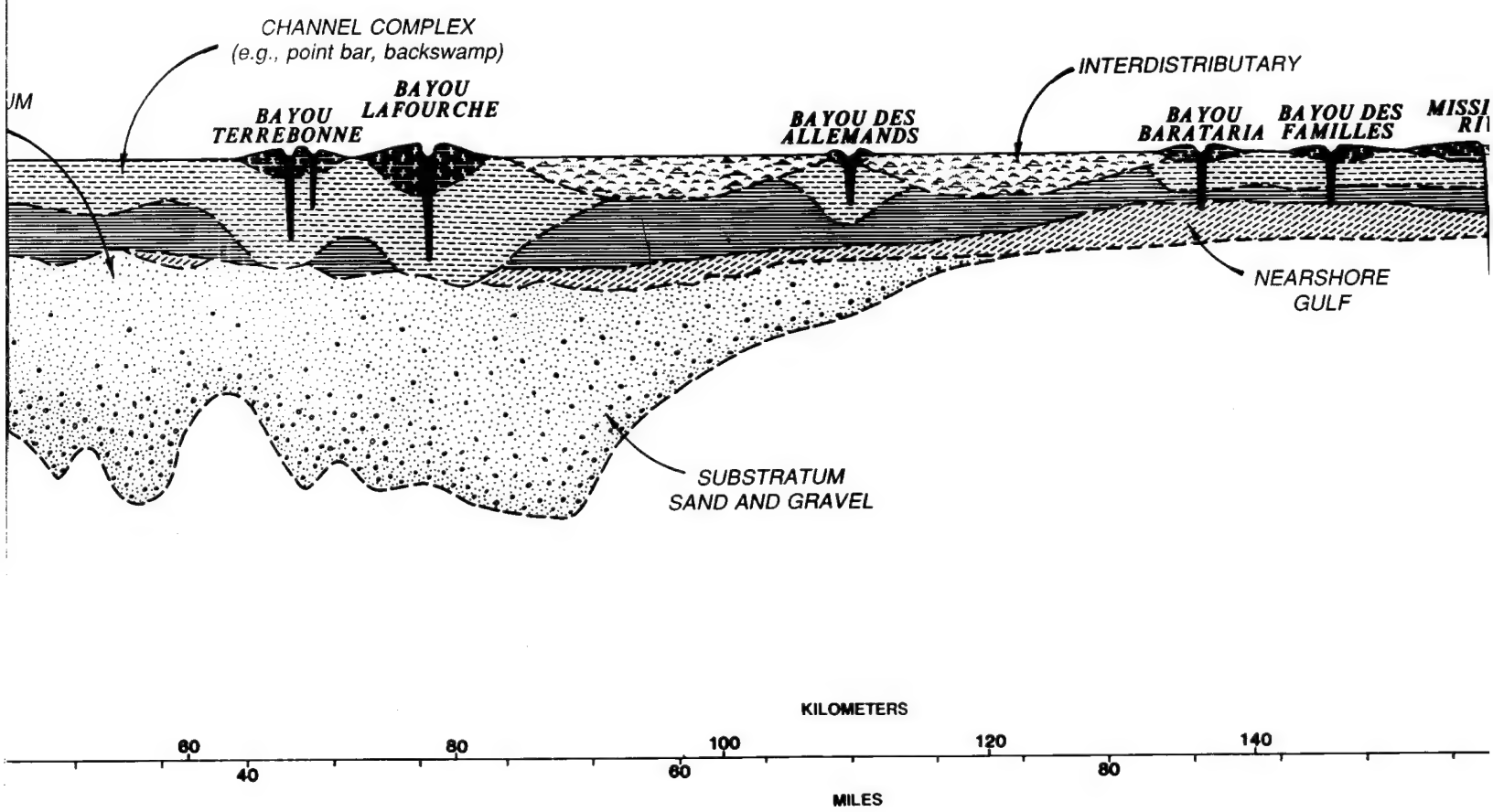
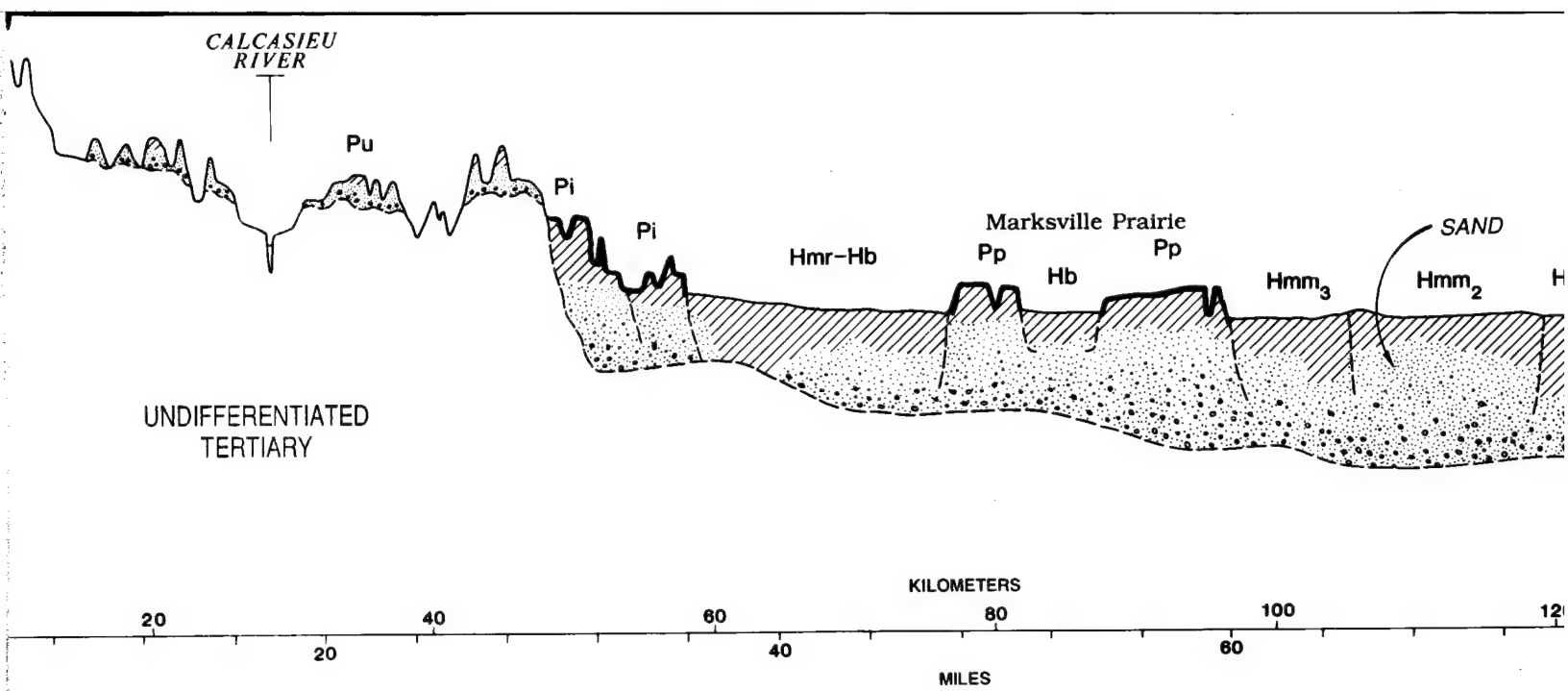


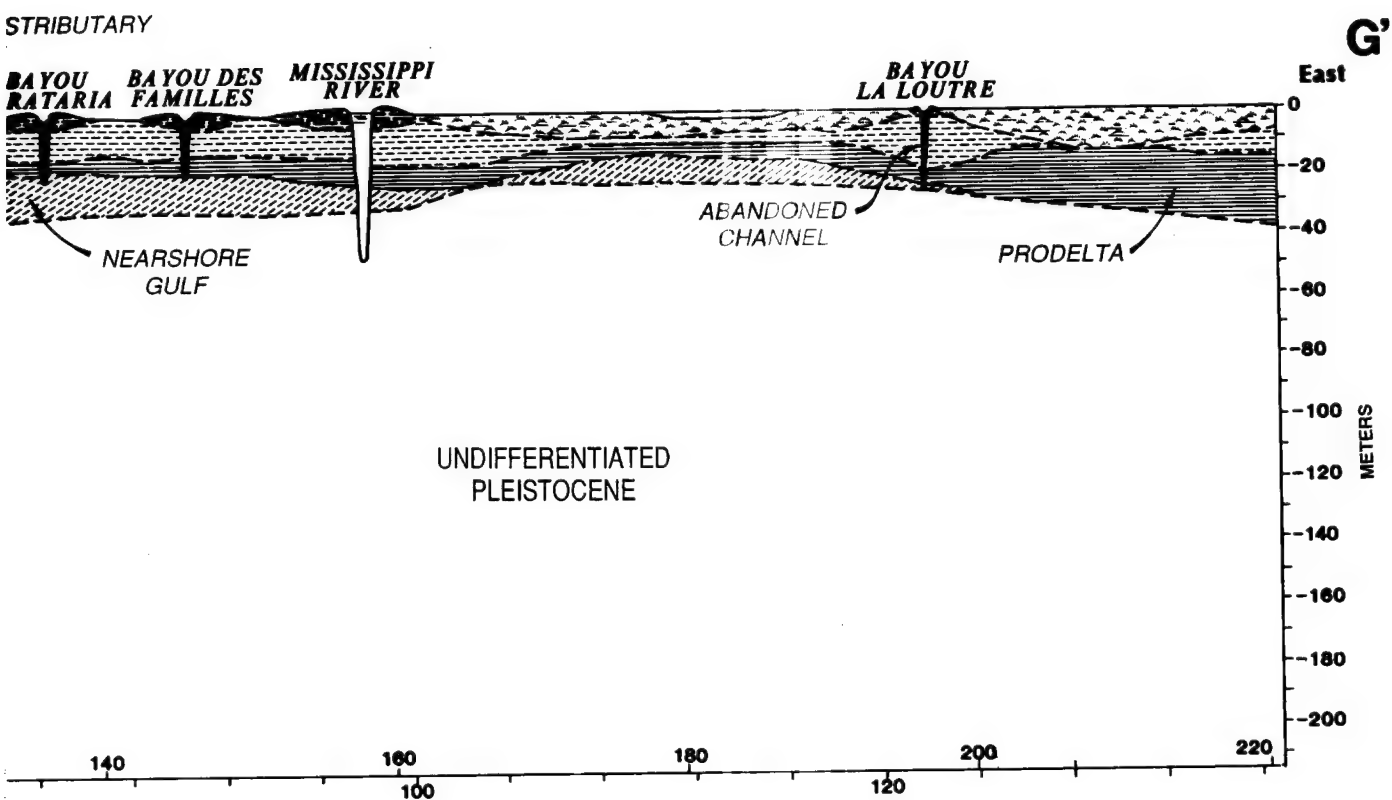
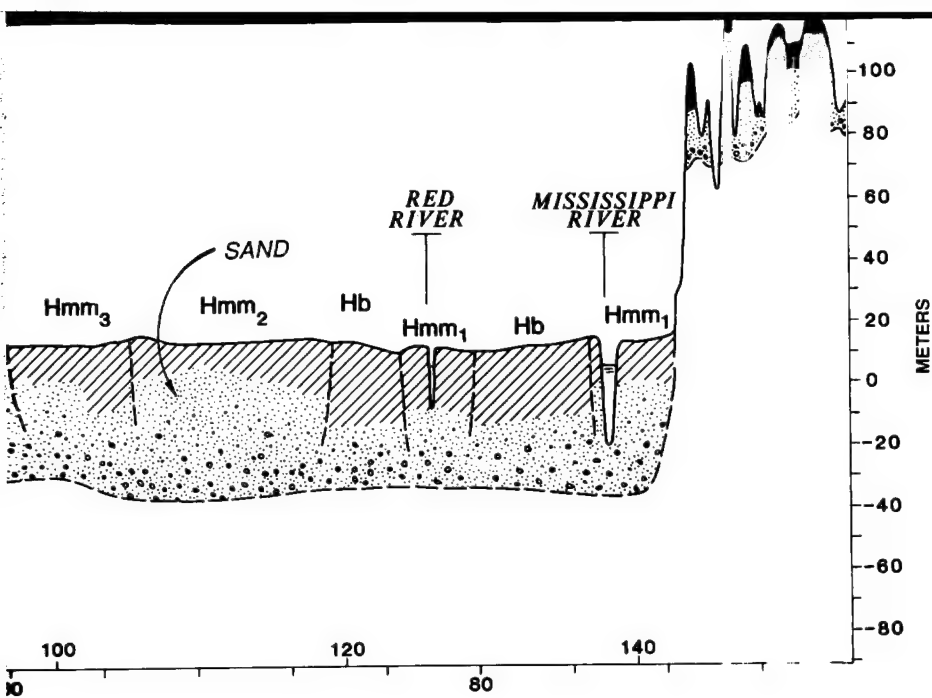


IONS

Y







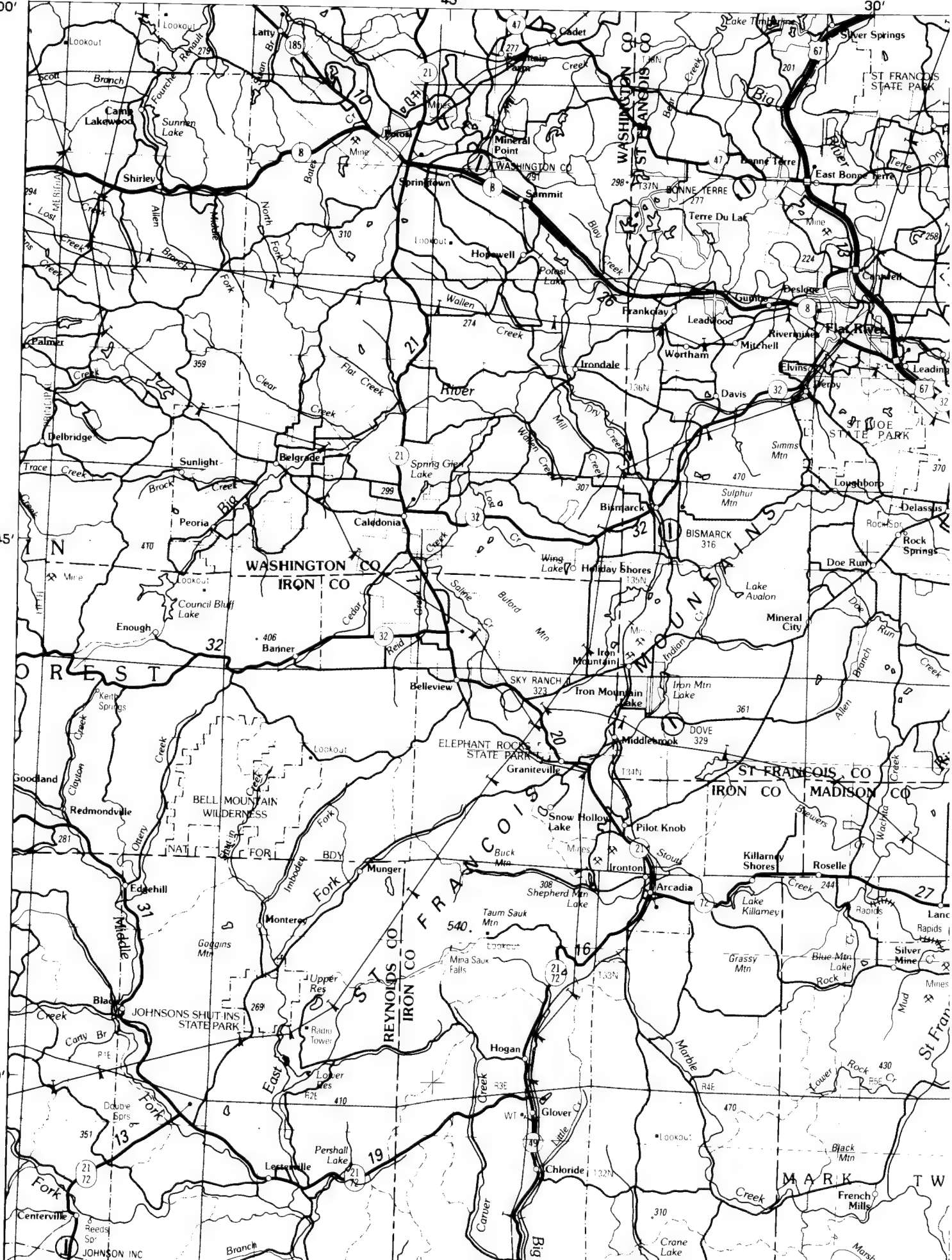
91° 00'
38° 00'

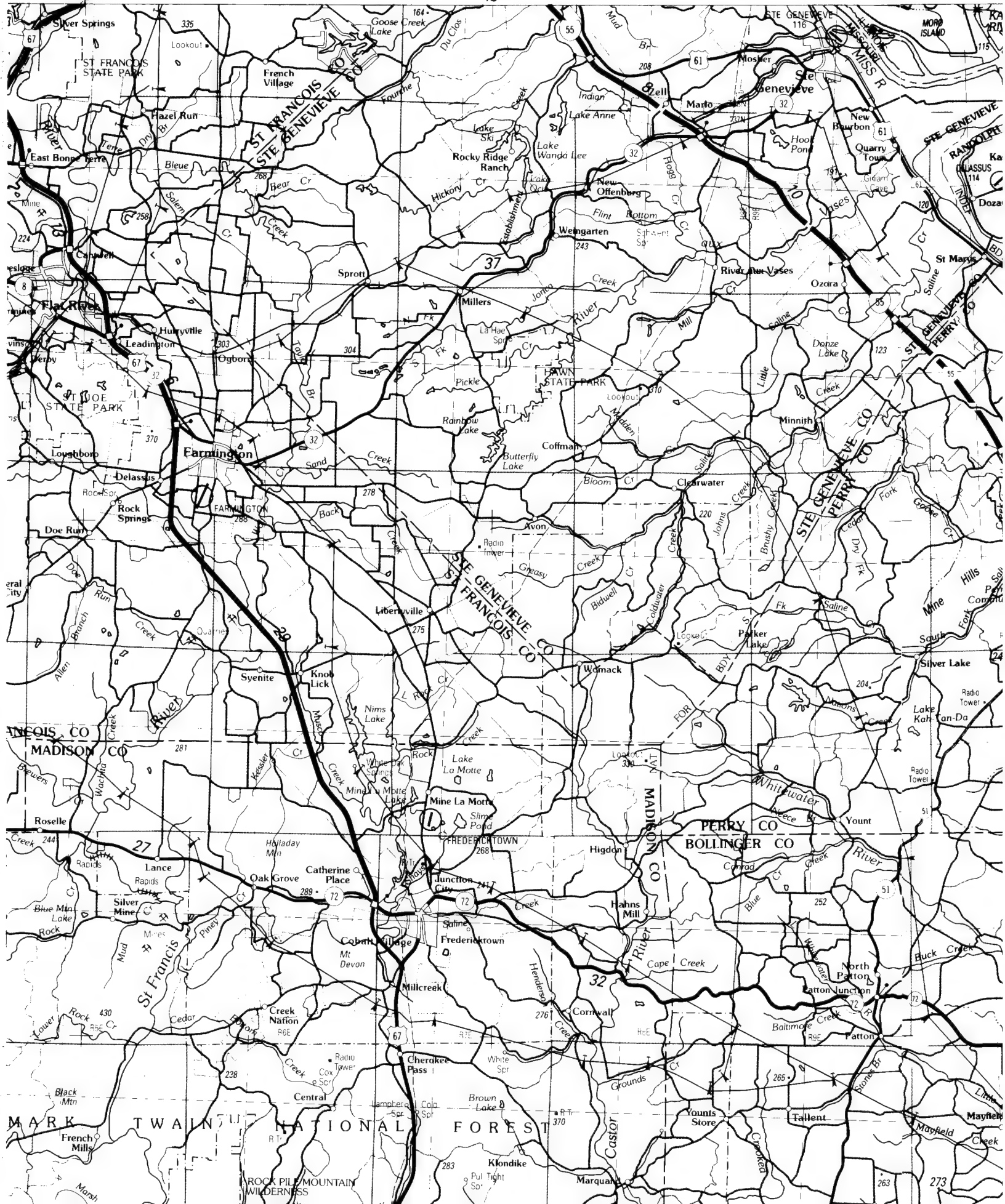
45'

30'

45'

30'

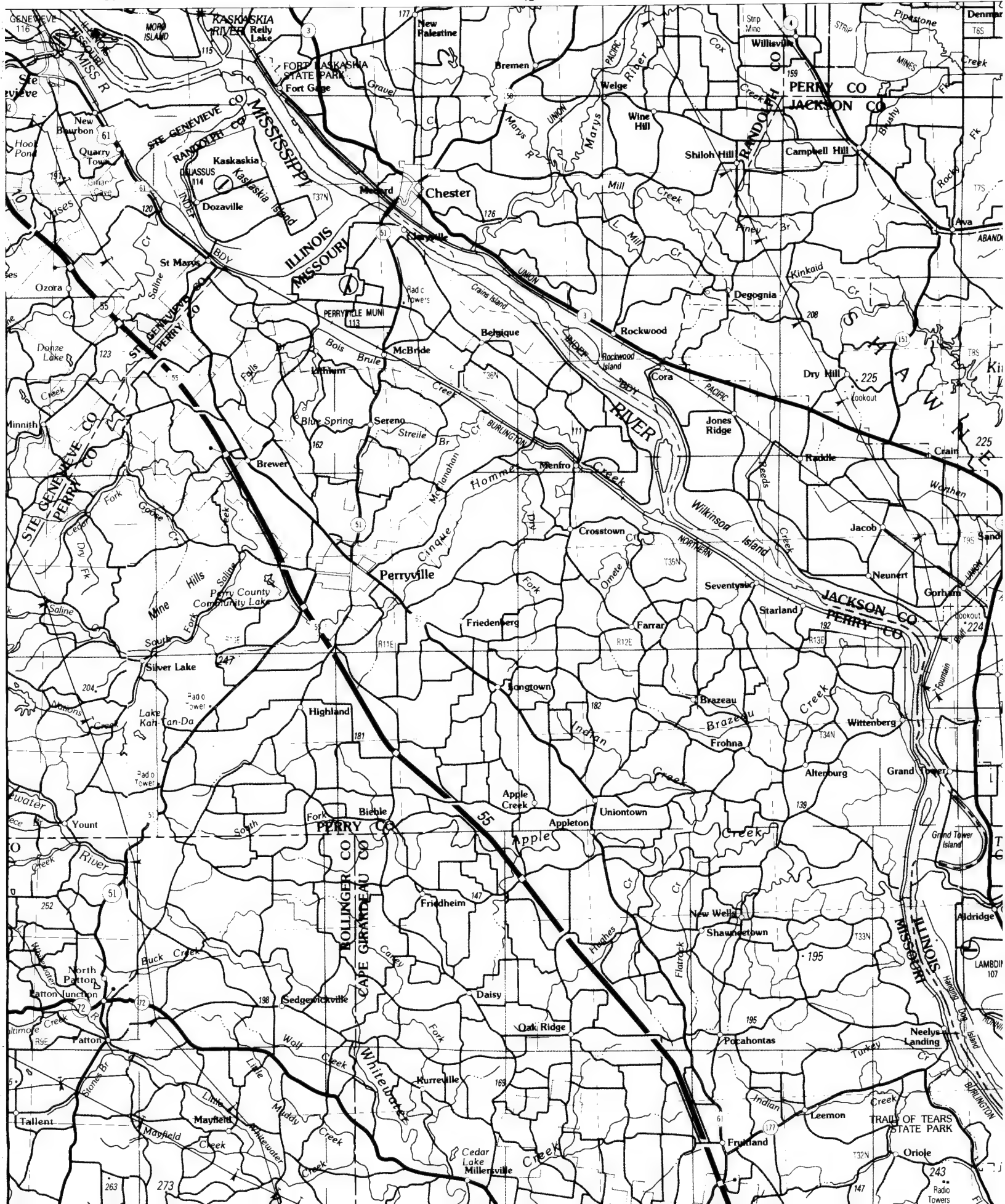




90° 00'

45'

30'



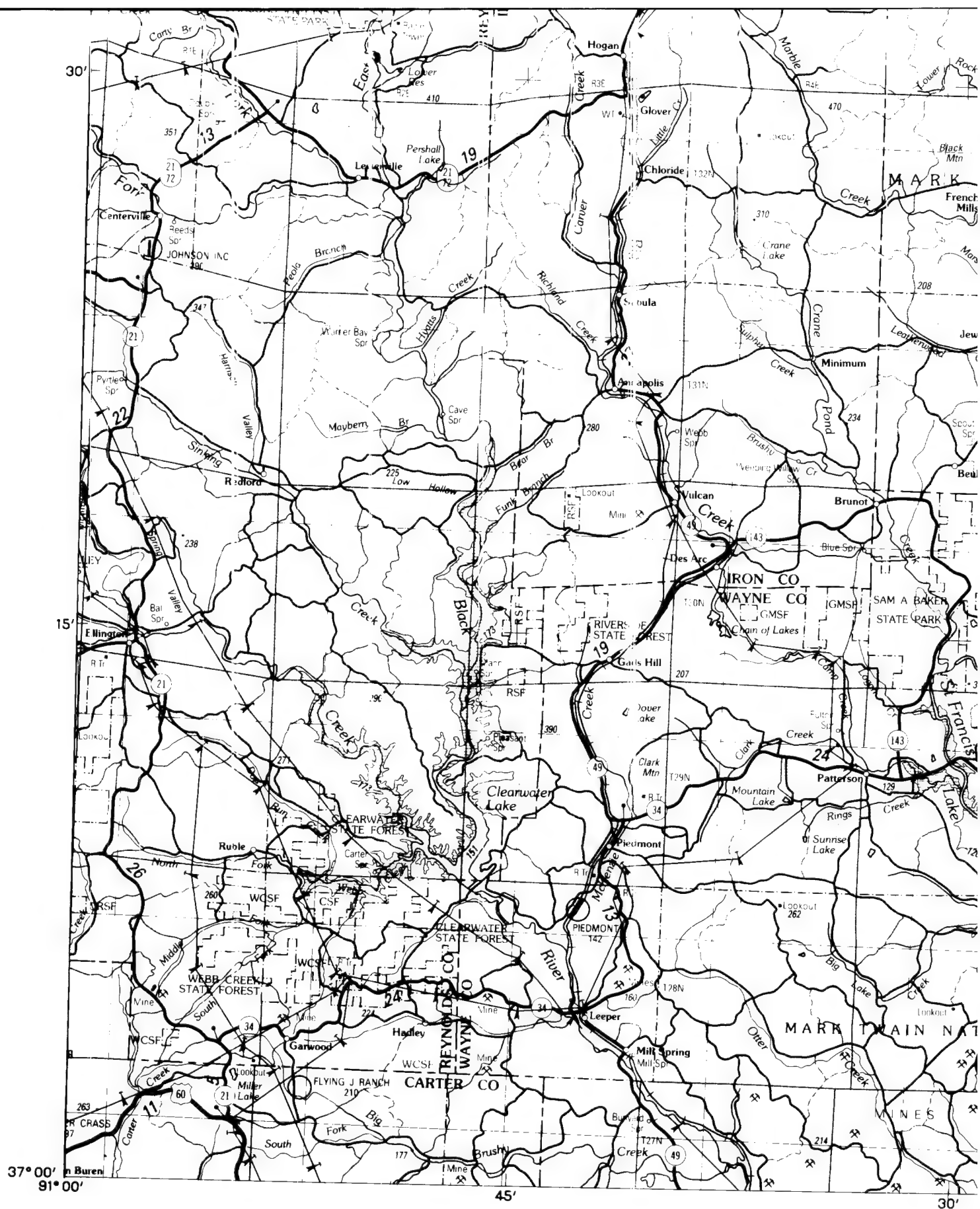
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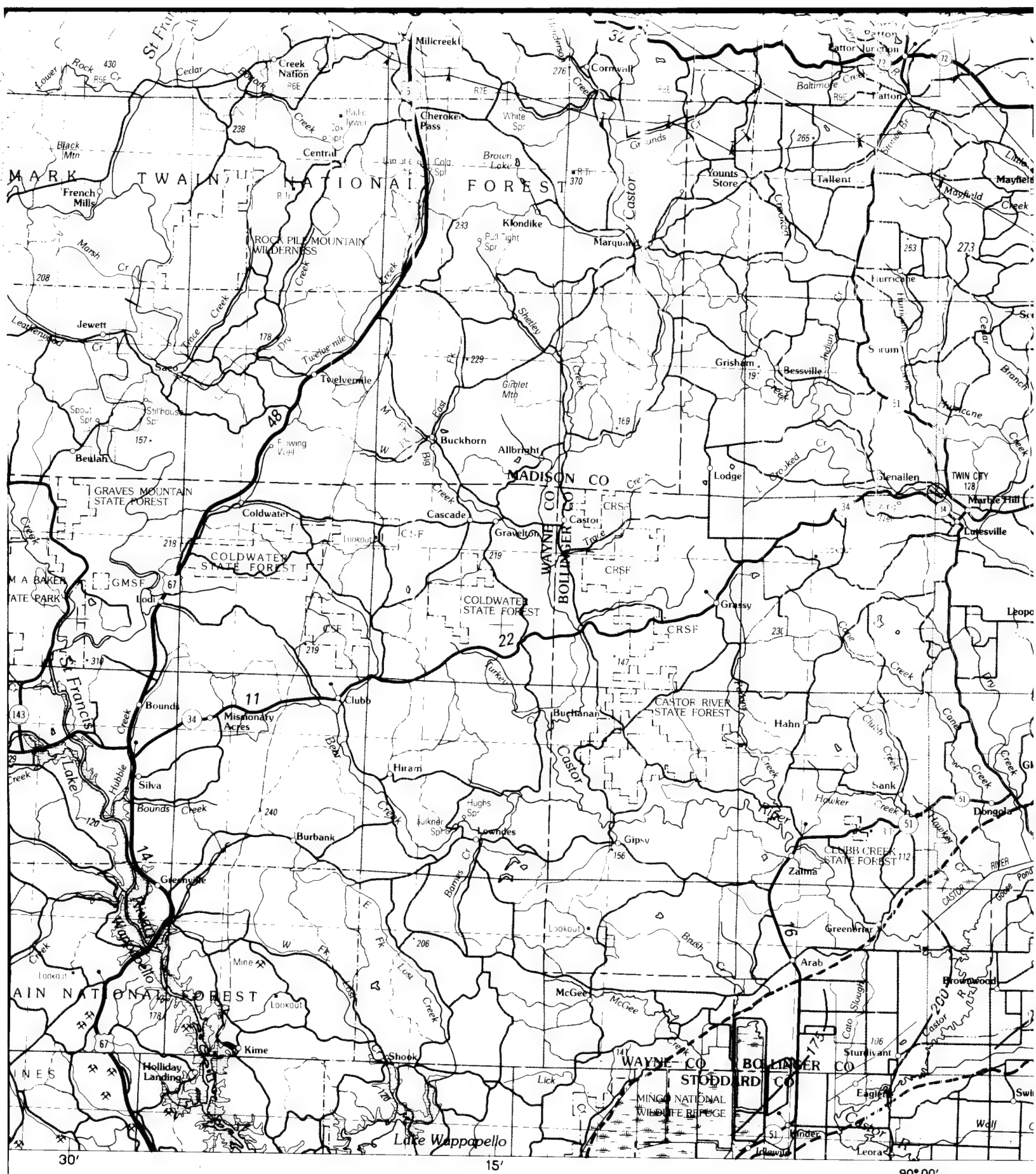
15'

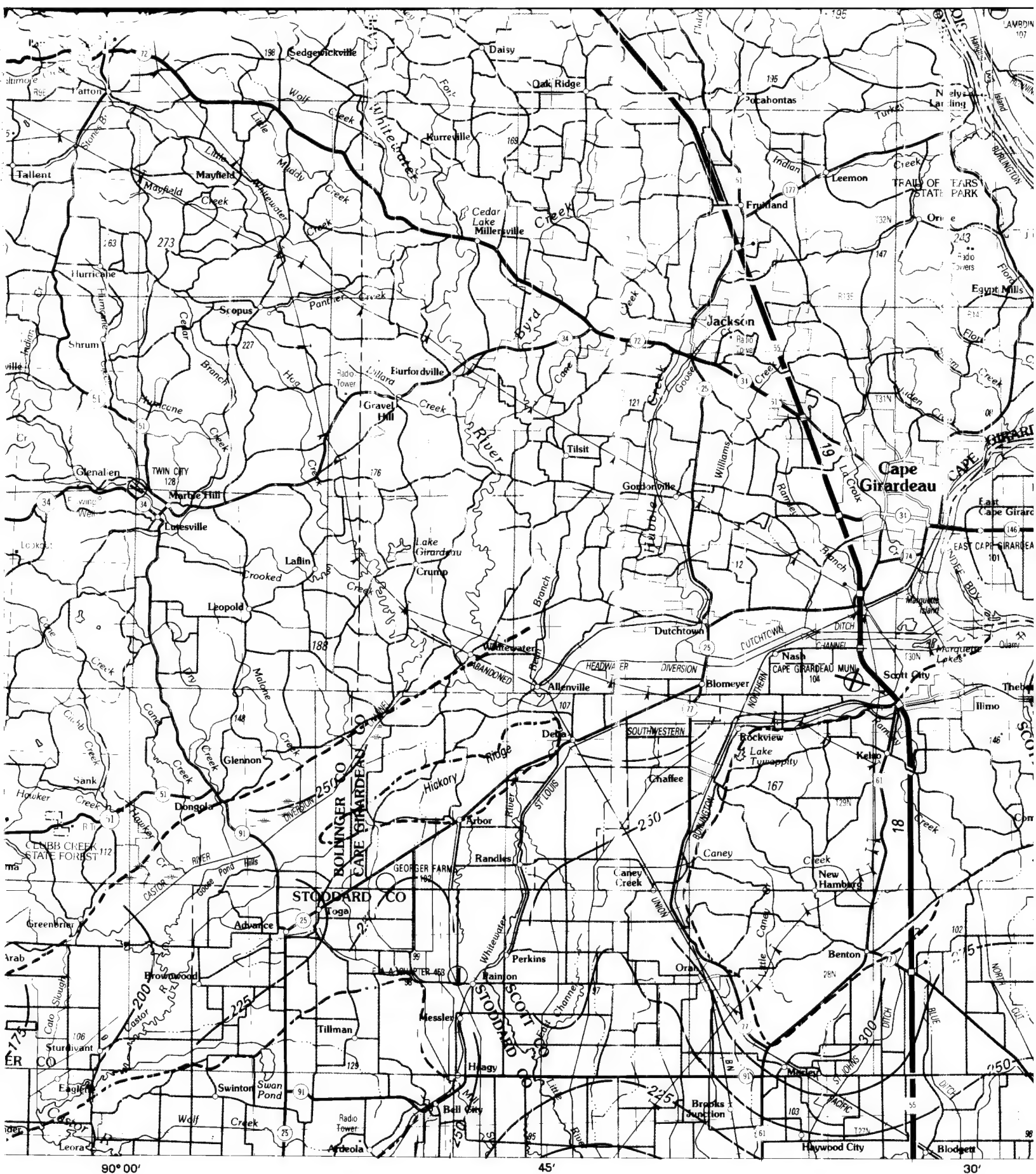
89° 00'



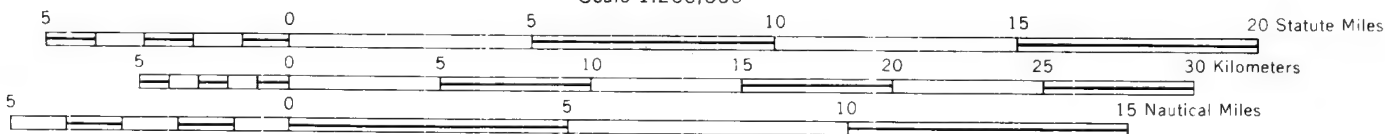
38° 00'

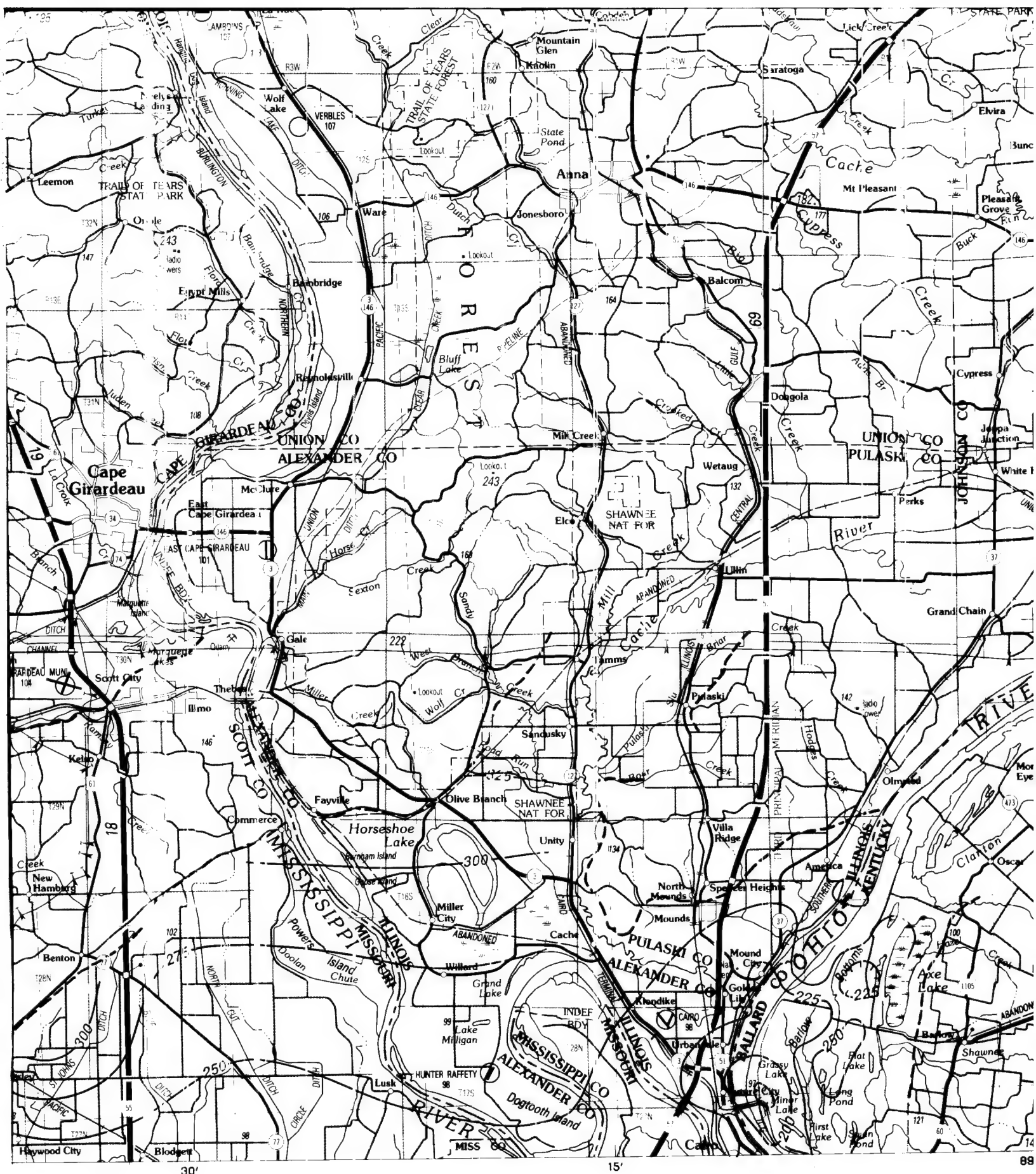




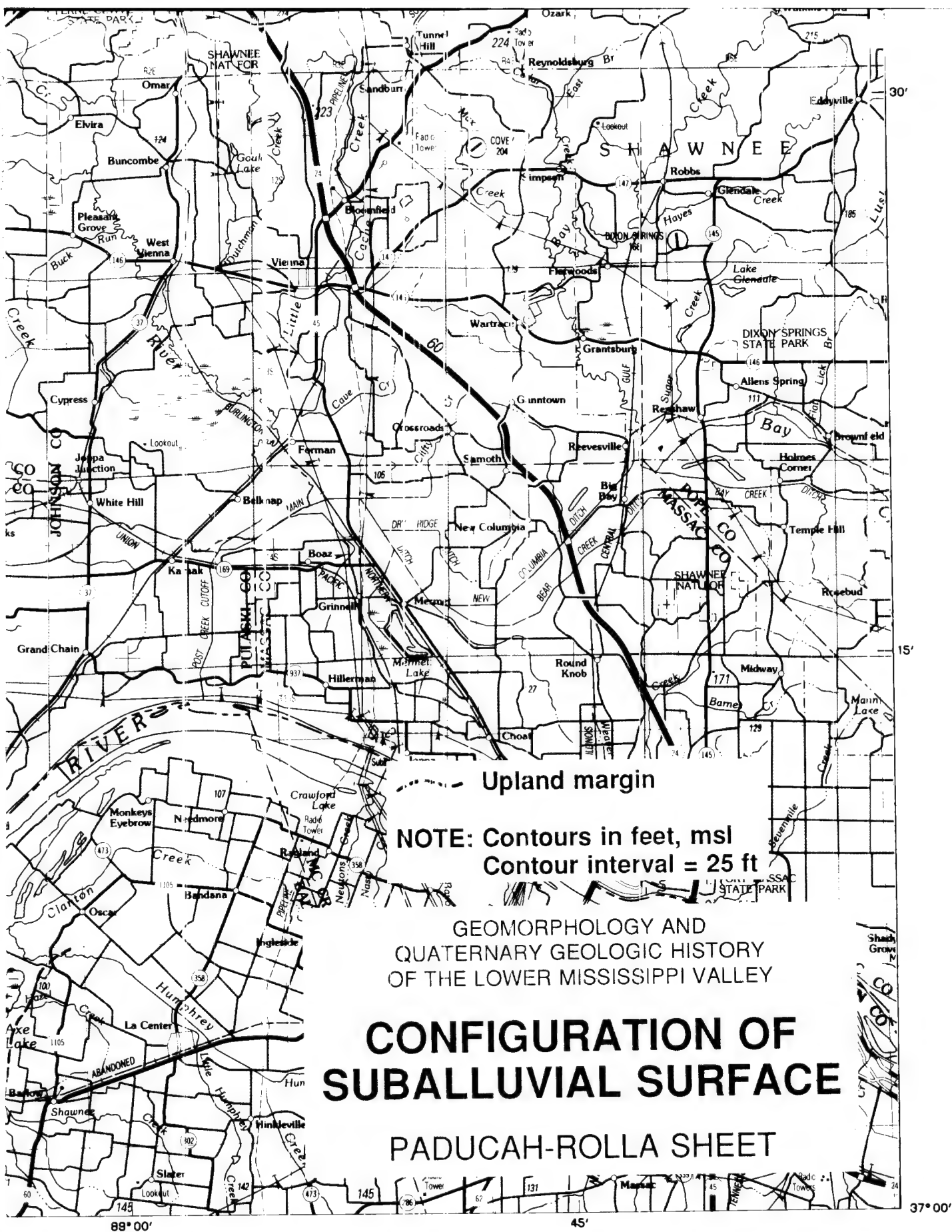


Scale 1:250,000





20 Statute Miles
30 Kilometers
Nautical Miles



Upland margin

NOTE: Contours in feet, msl
Contour interval = 25 ft

GEOMORPHOLOGY AND
QUATERNARY GEOLOGIC HISTORY
OF THE LOWER MISSISSIPPI VALLEY

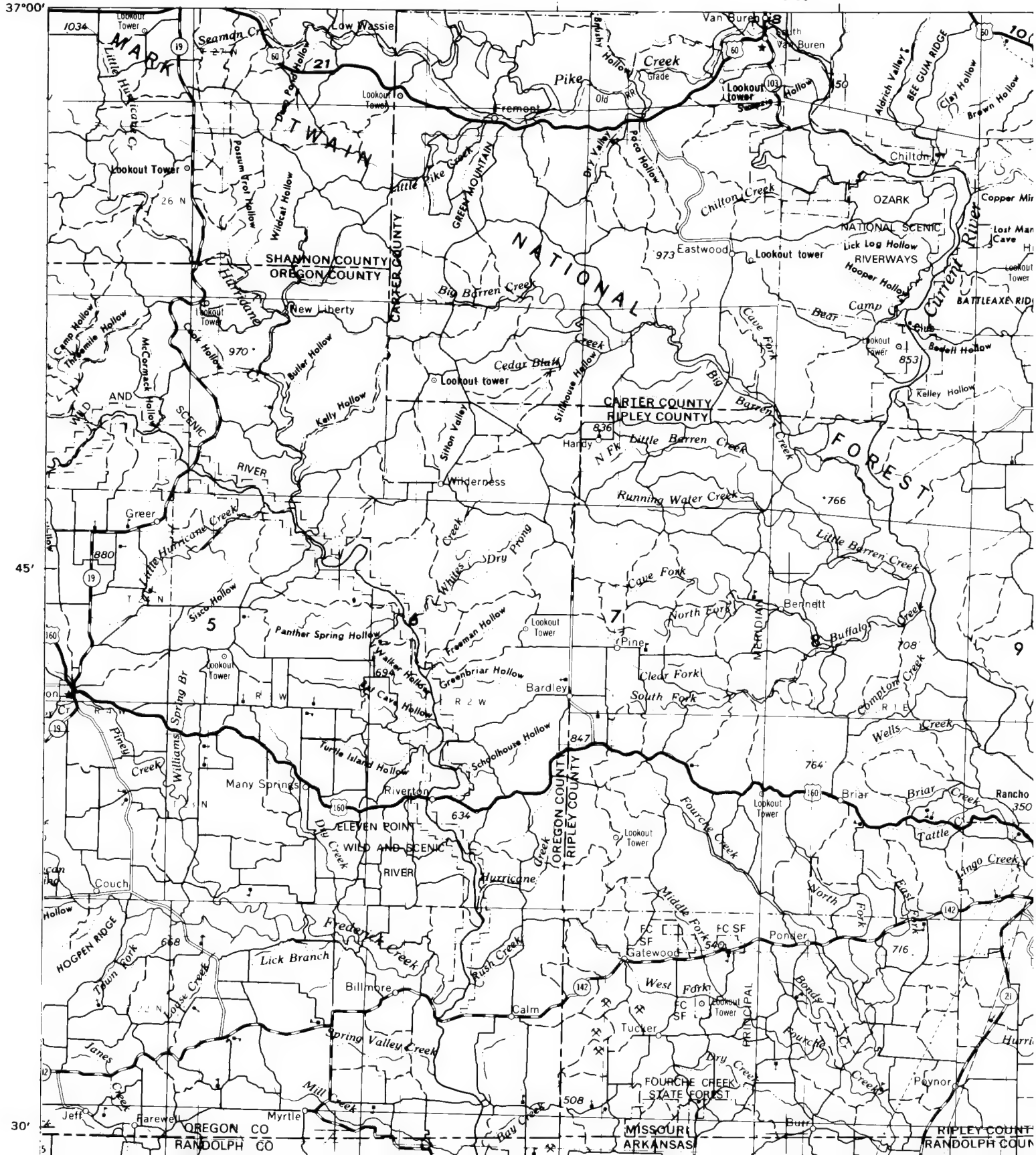
CONFIGURATION OF SUBALLUVIAL SURFACE

PADUCAH-ROLLA SHEET

37°00'

15'

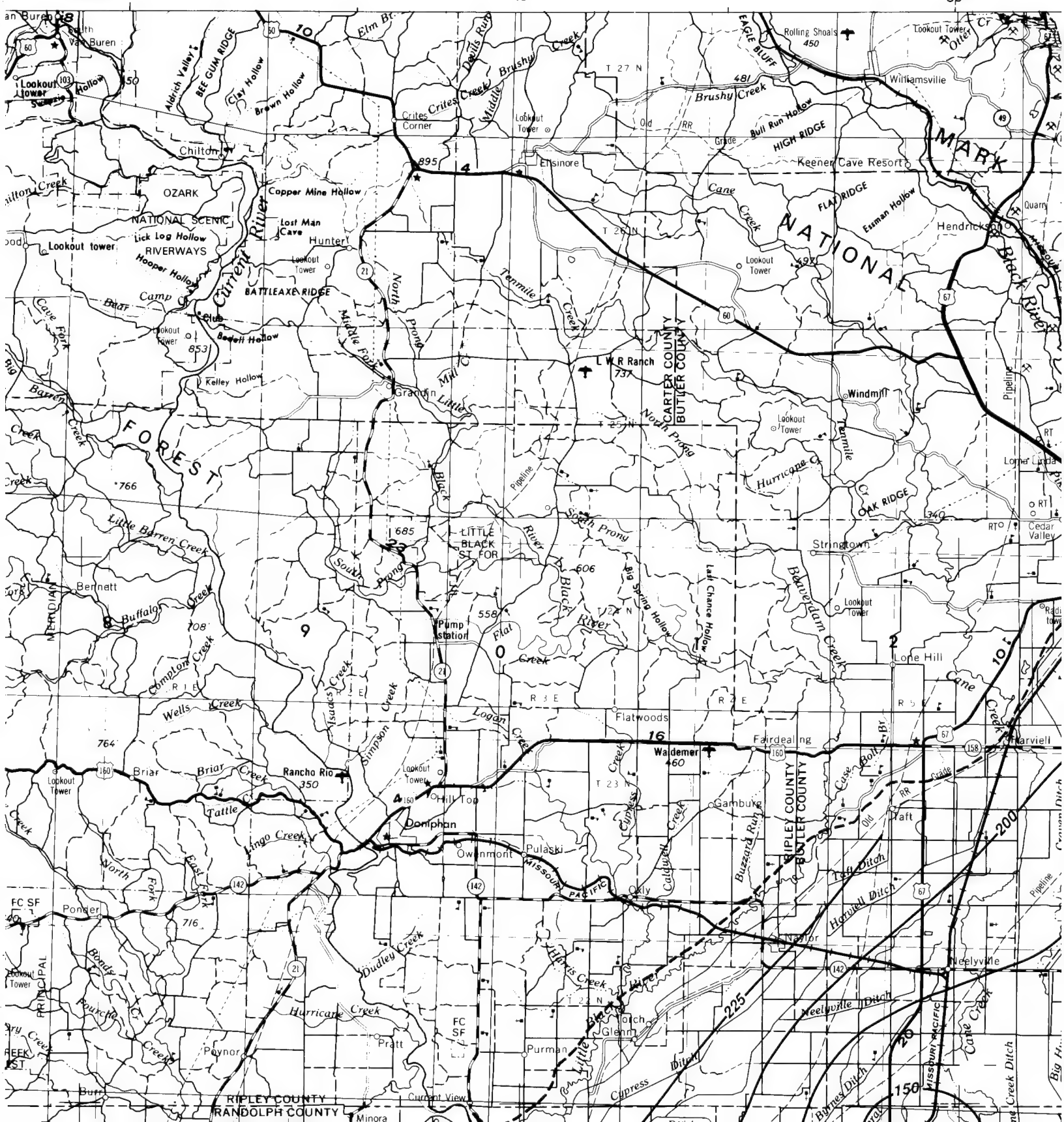
91°00'



91°00'

45'

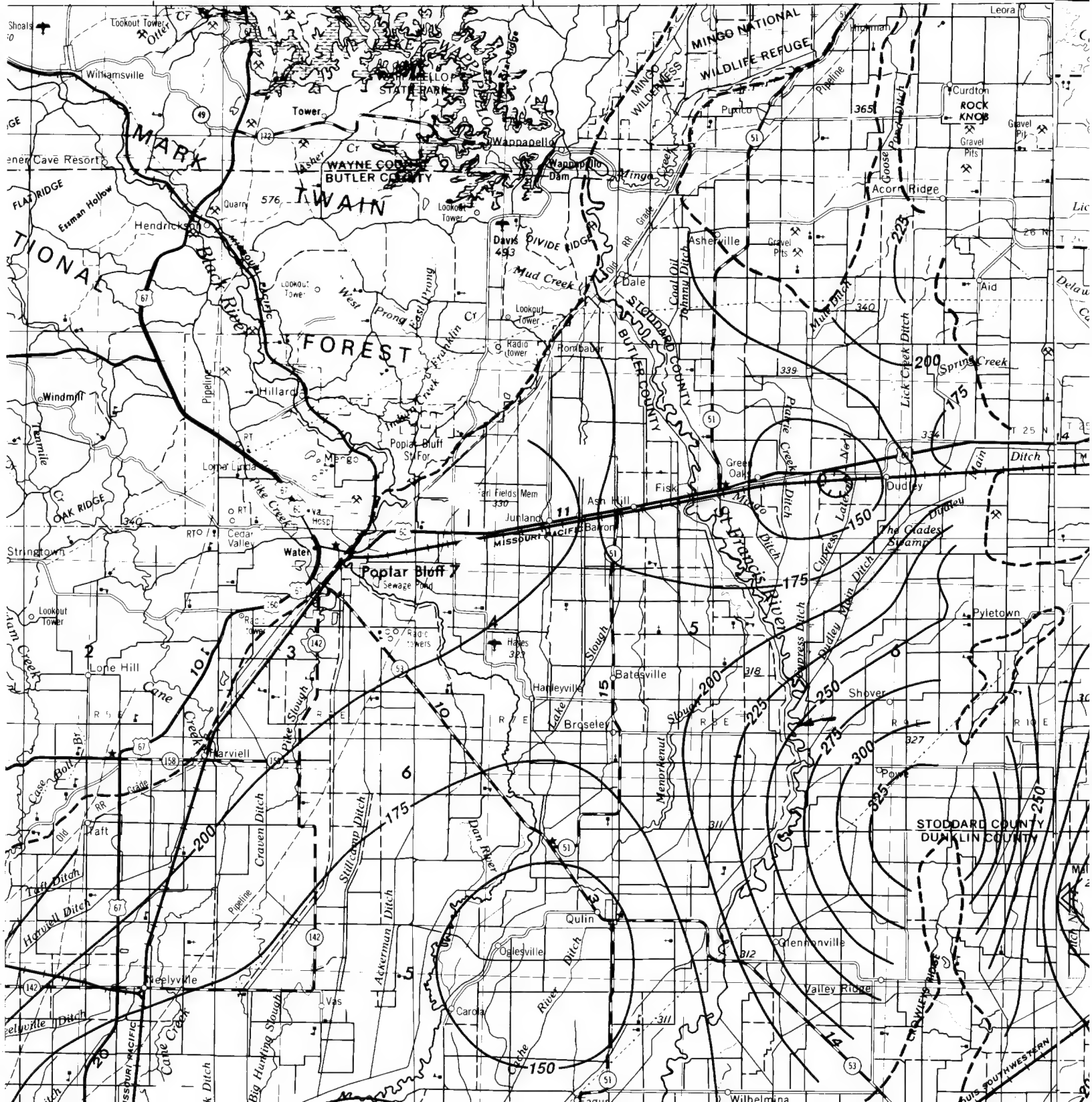
30'



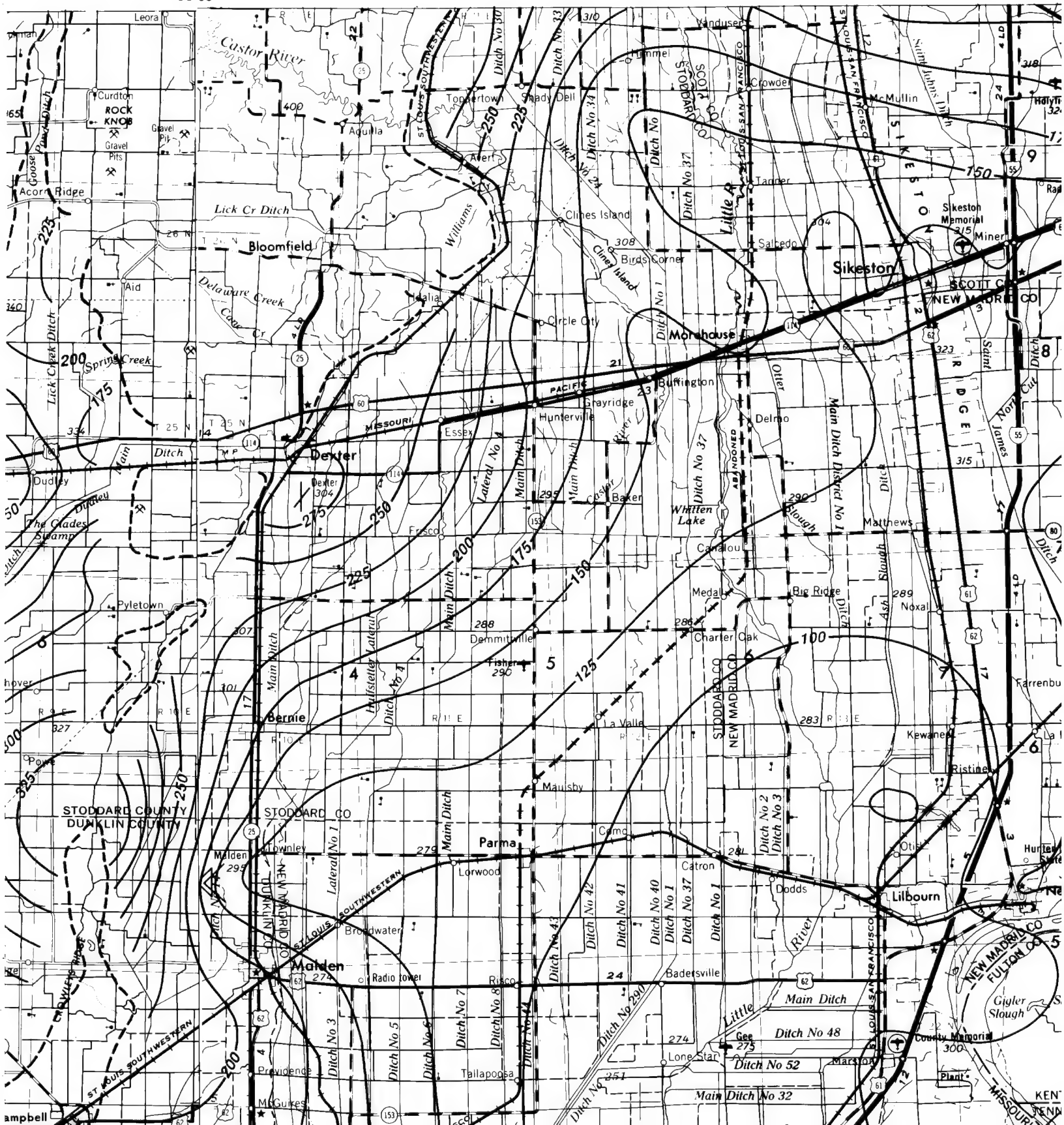
30'

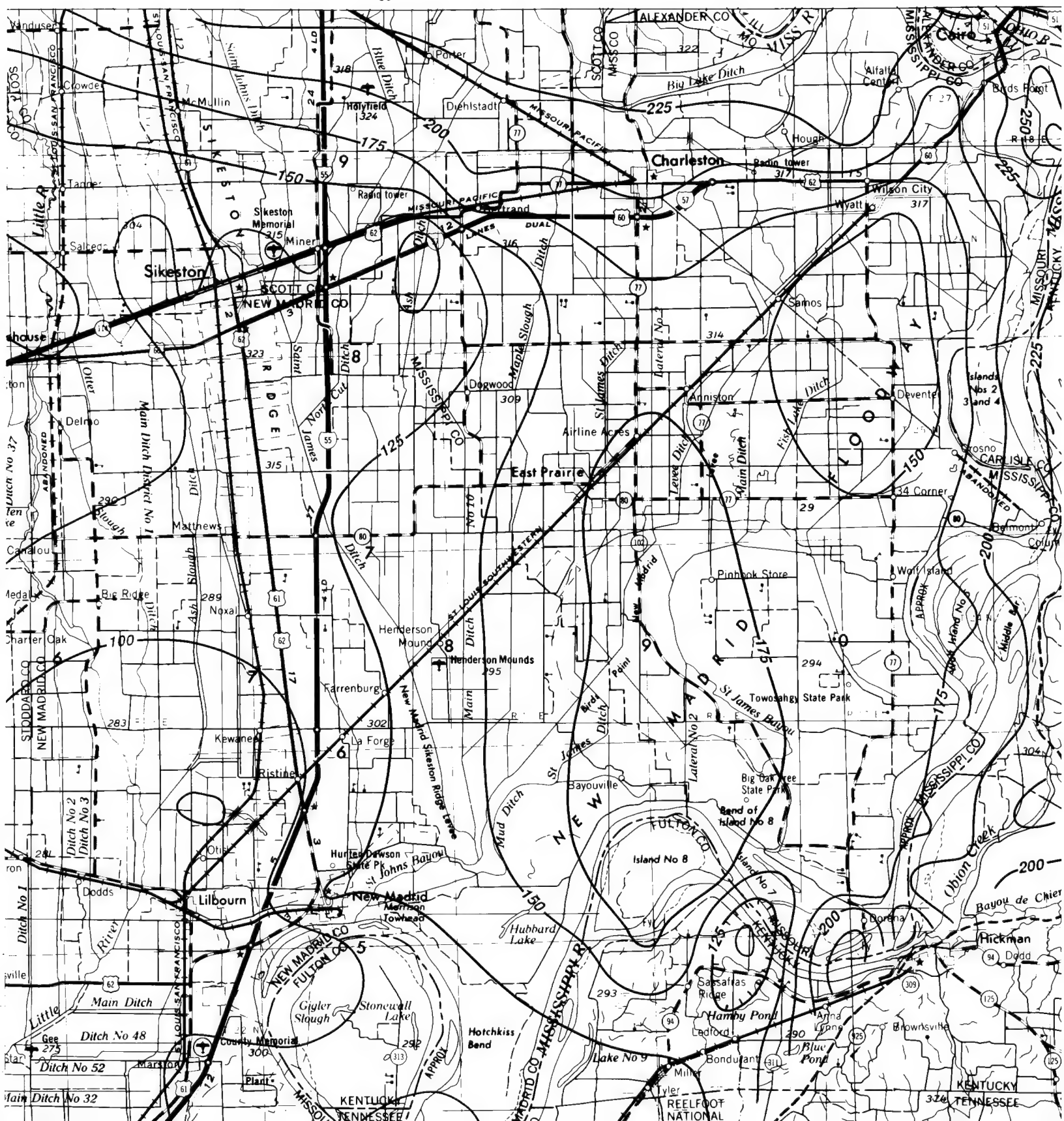
15'

90°00'



45

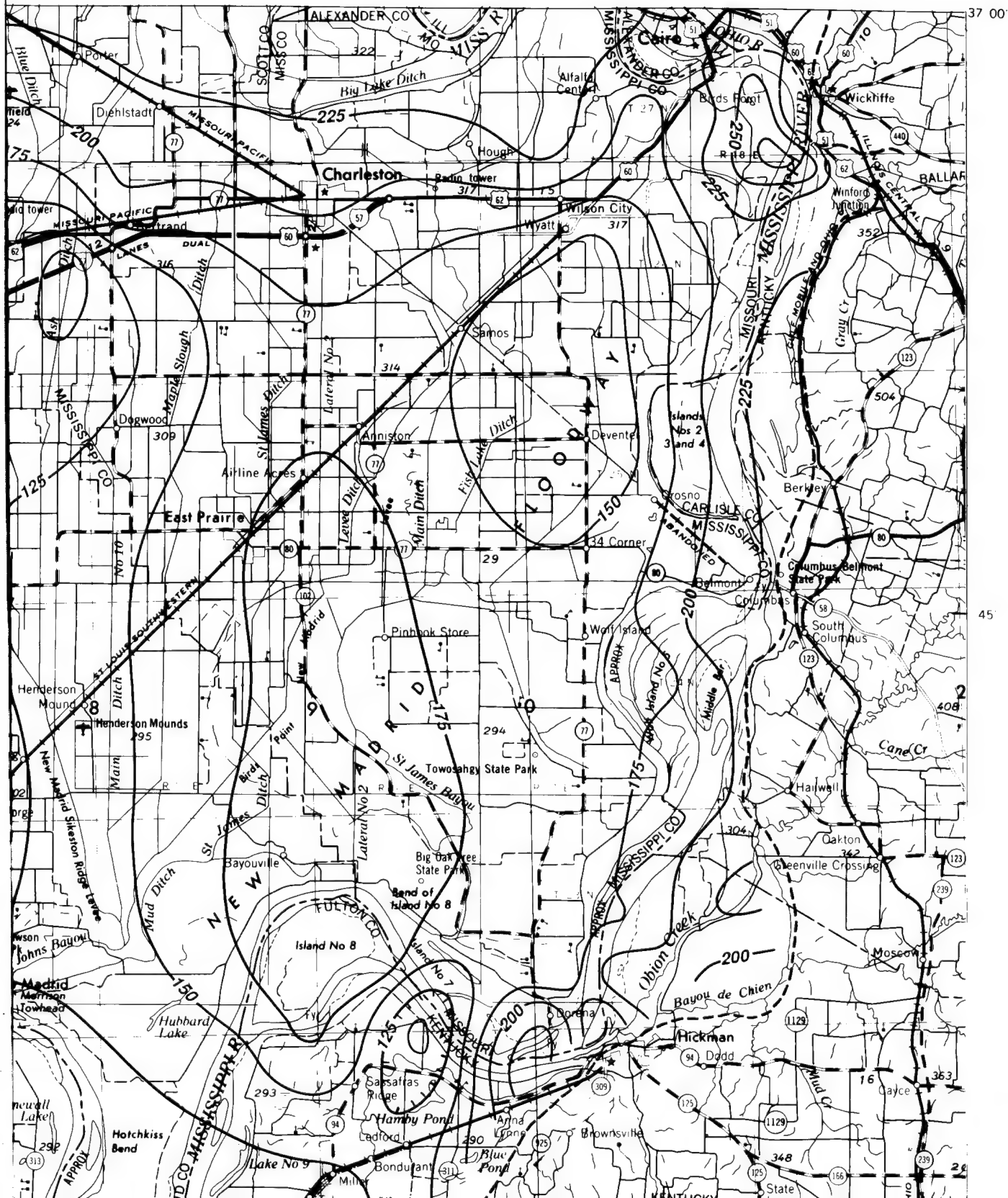




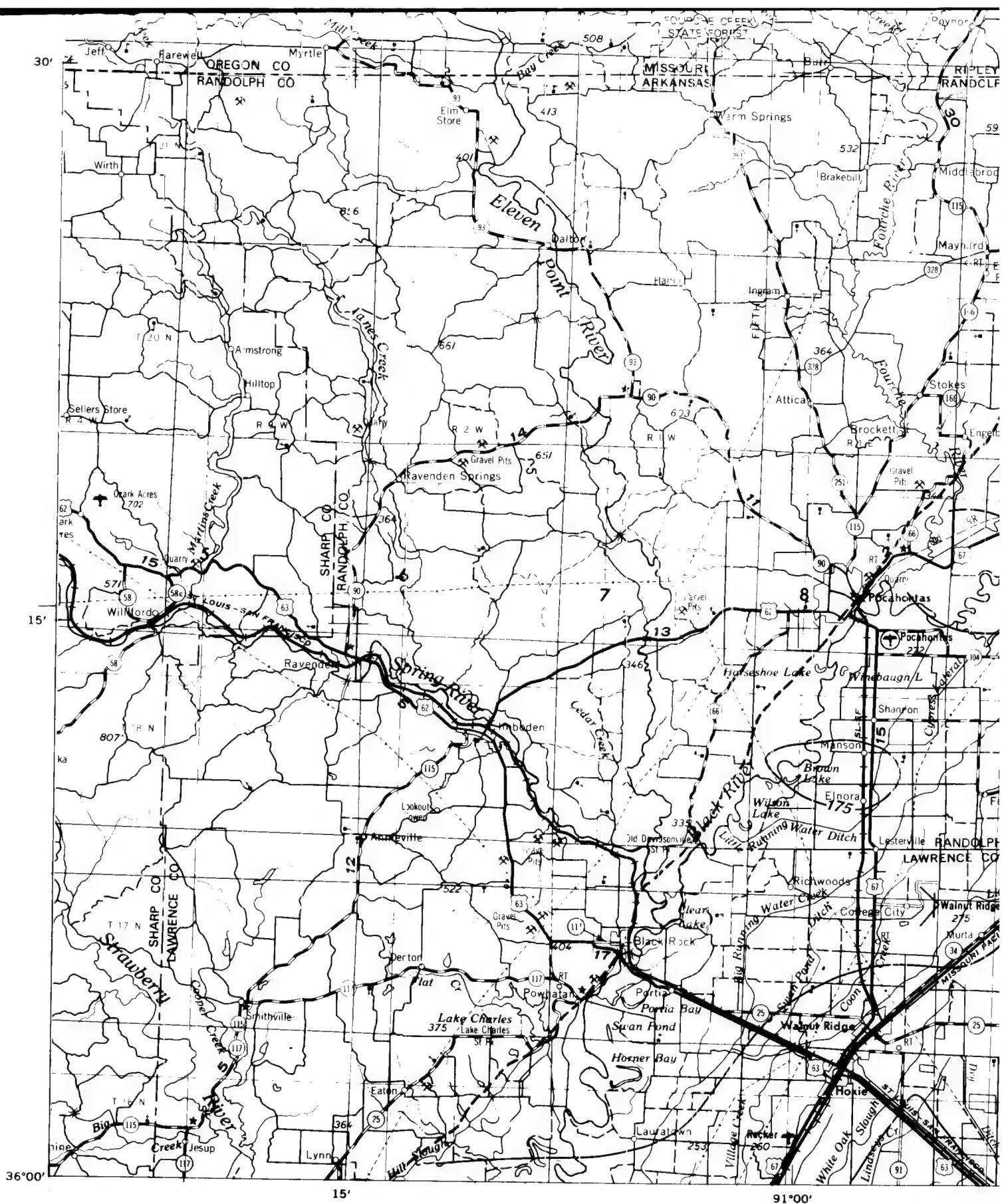
30°

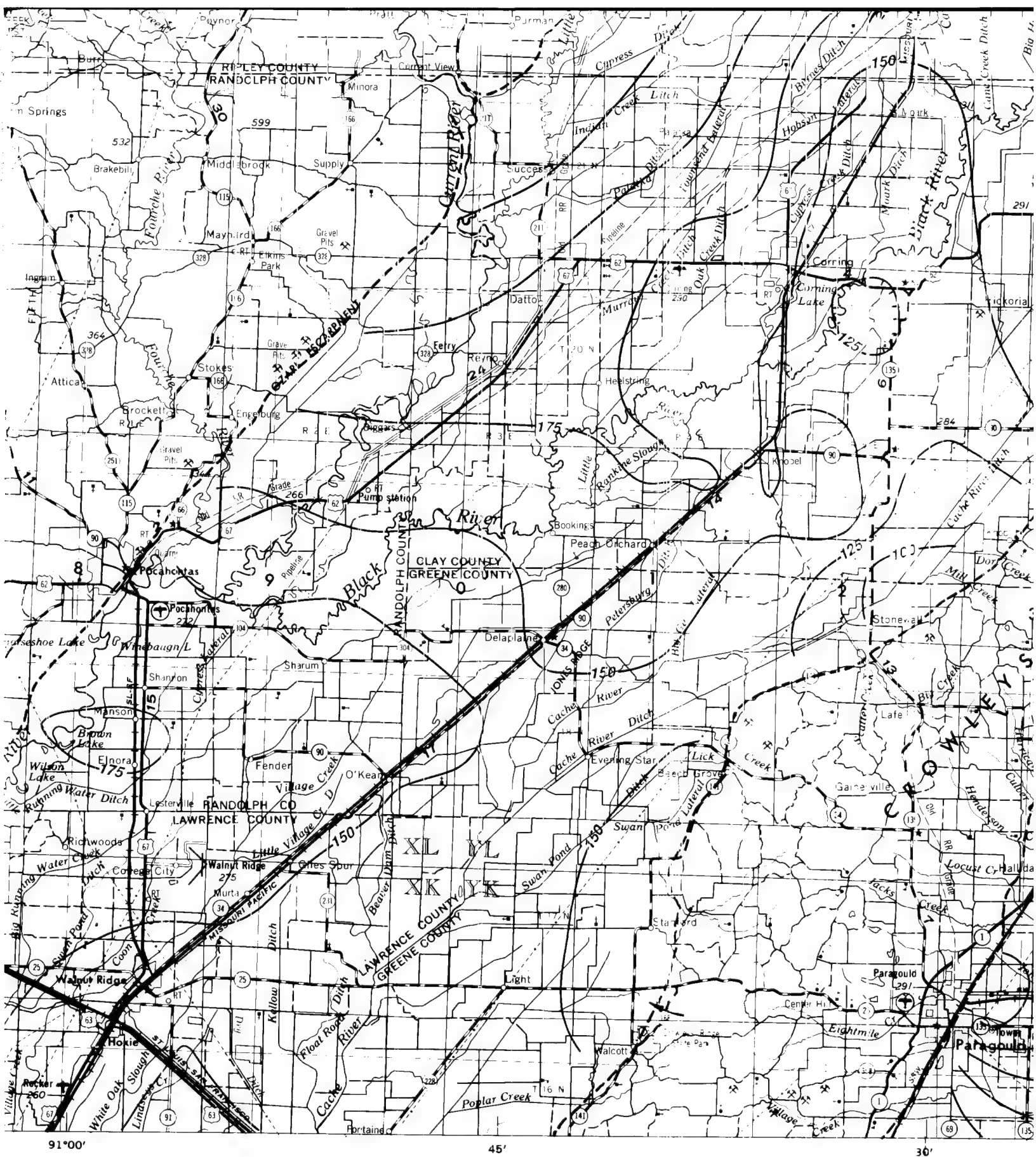
15°

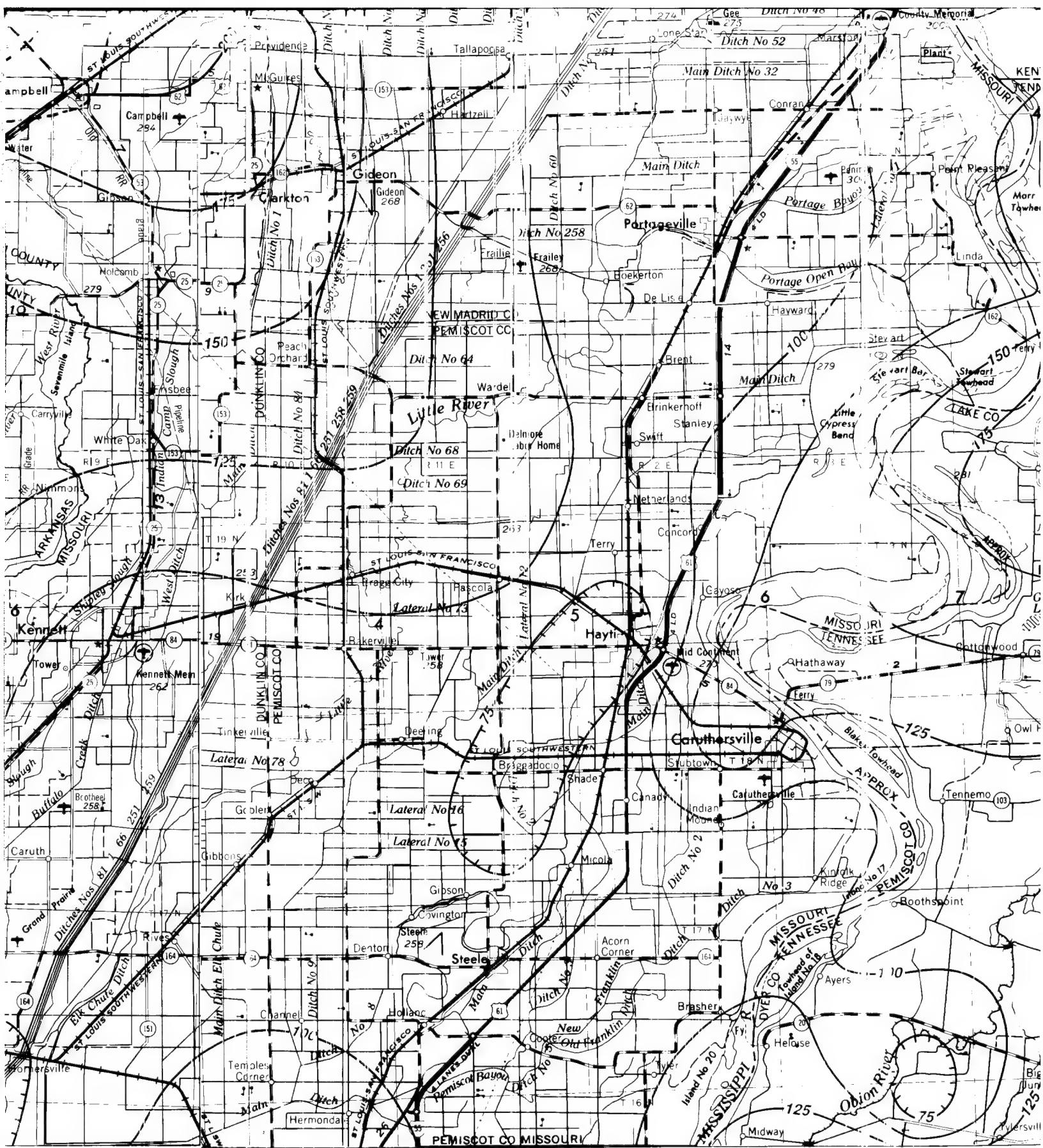
37 00'



45



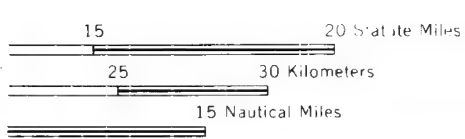


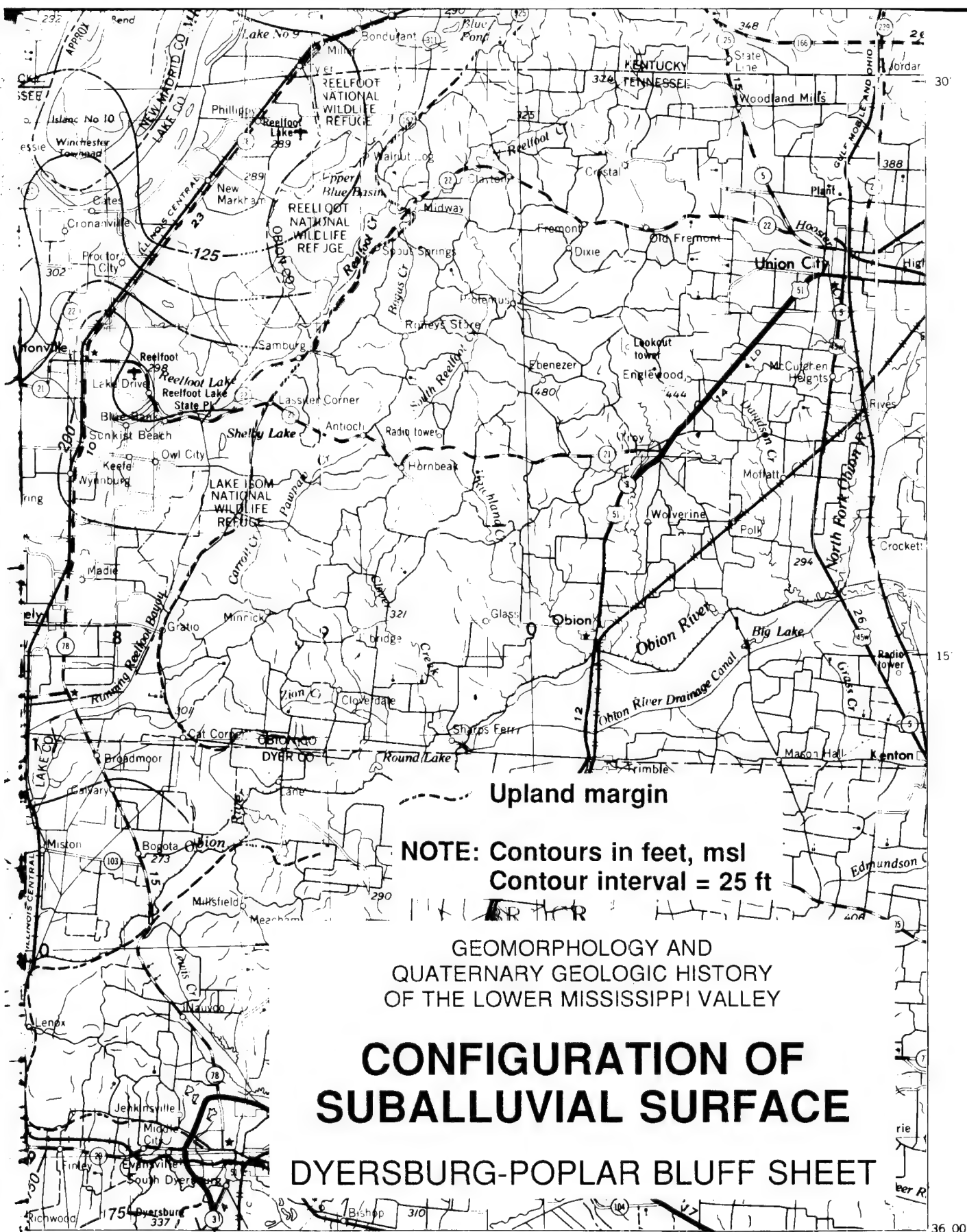


90°00'

MISSISSIPPI CO ARKANSAS

45'





Upland margin

NOTE: Contours in feet, msl
Contour interval = 25 ft

GEOMORPHOLOGY AND
QUATERNARY GEOLOGIC HISTORY
OF THE LOWER MISSISSIPPI VALLEY

CONFIGURATION OF SUBALLUVIAL SURFACE

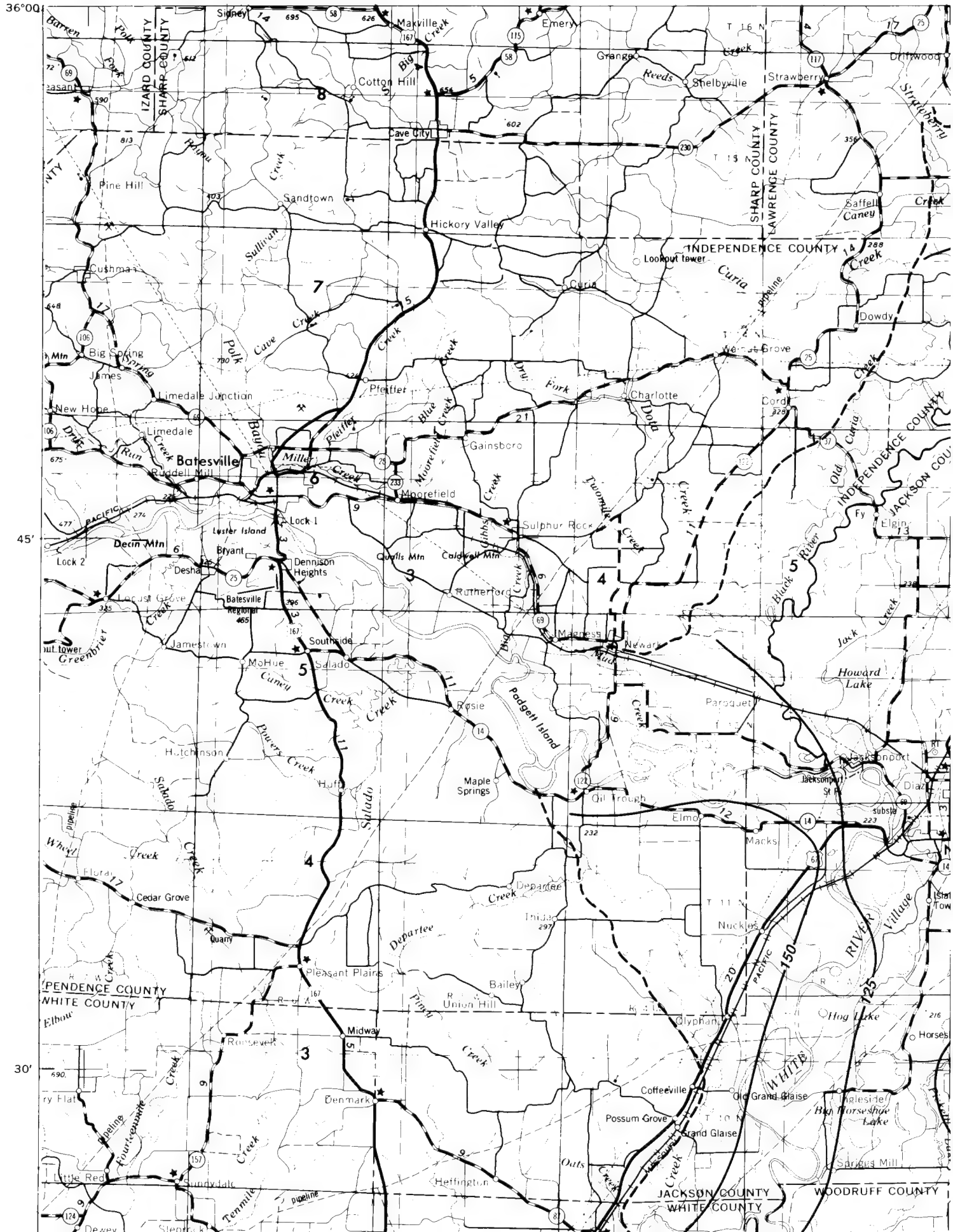
DYERSBURG-POPLAR BLUFF SHEET

36°00'

45'

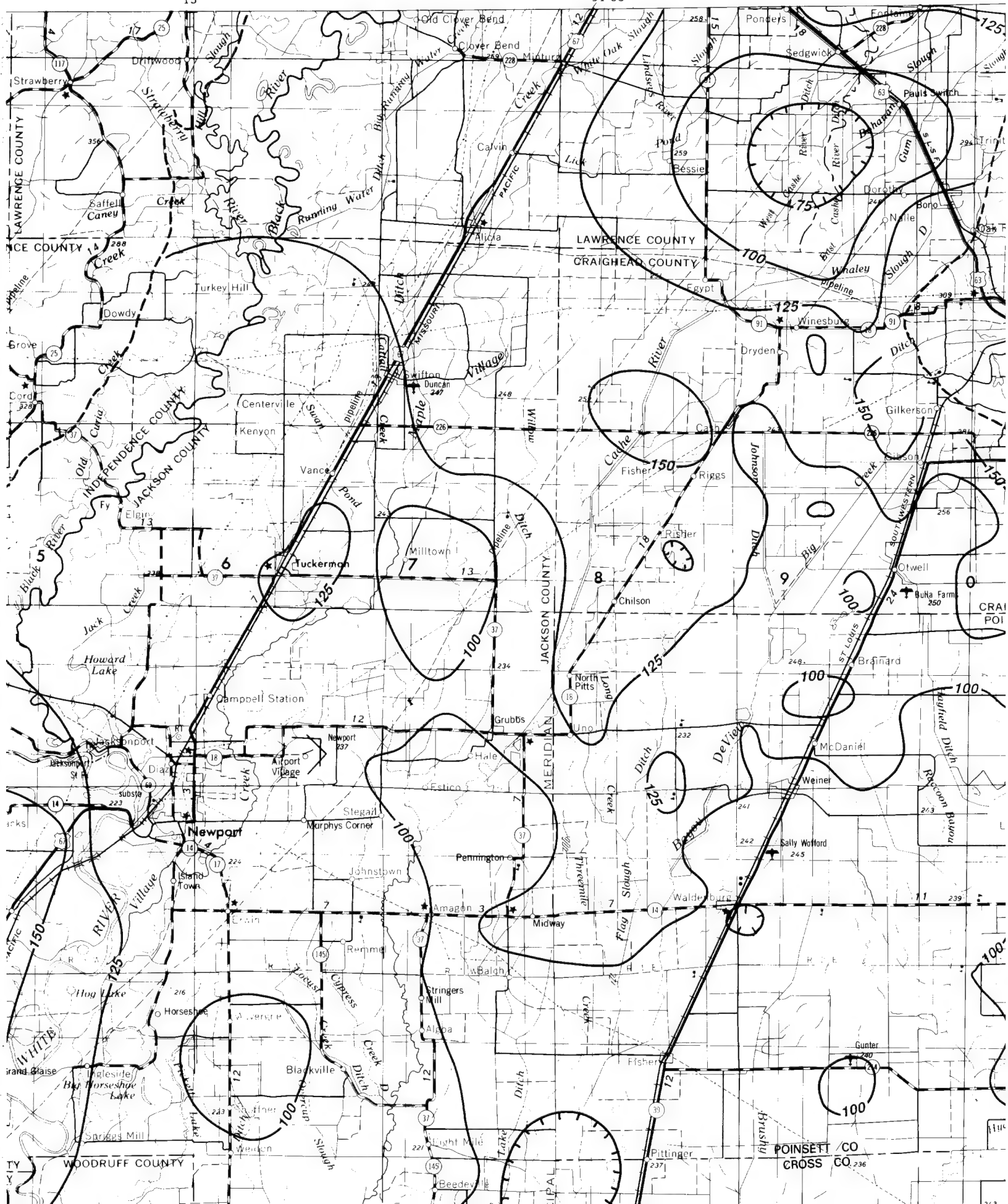
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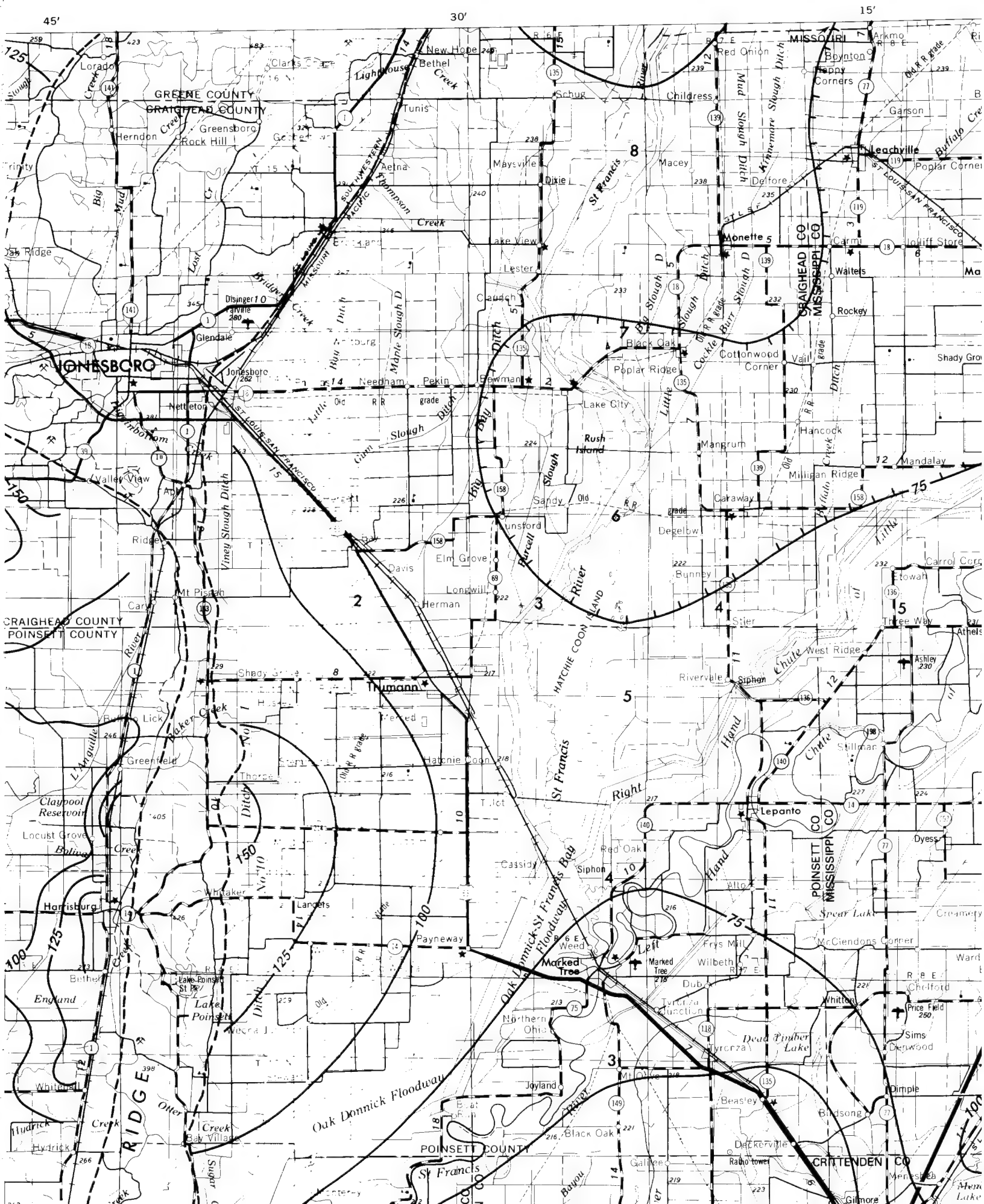
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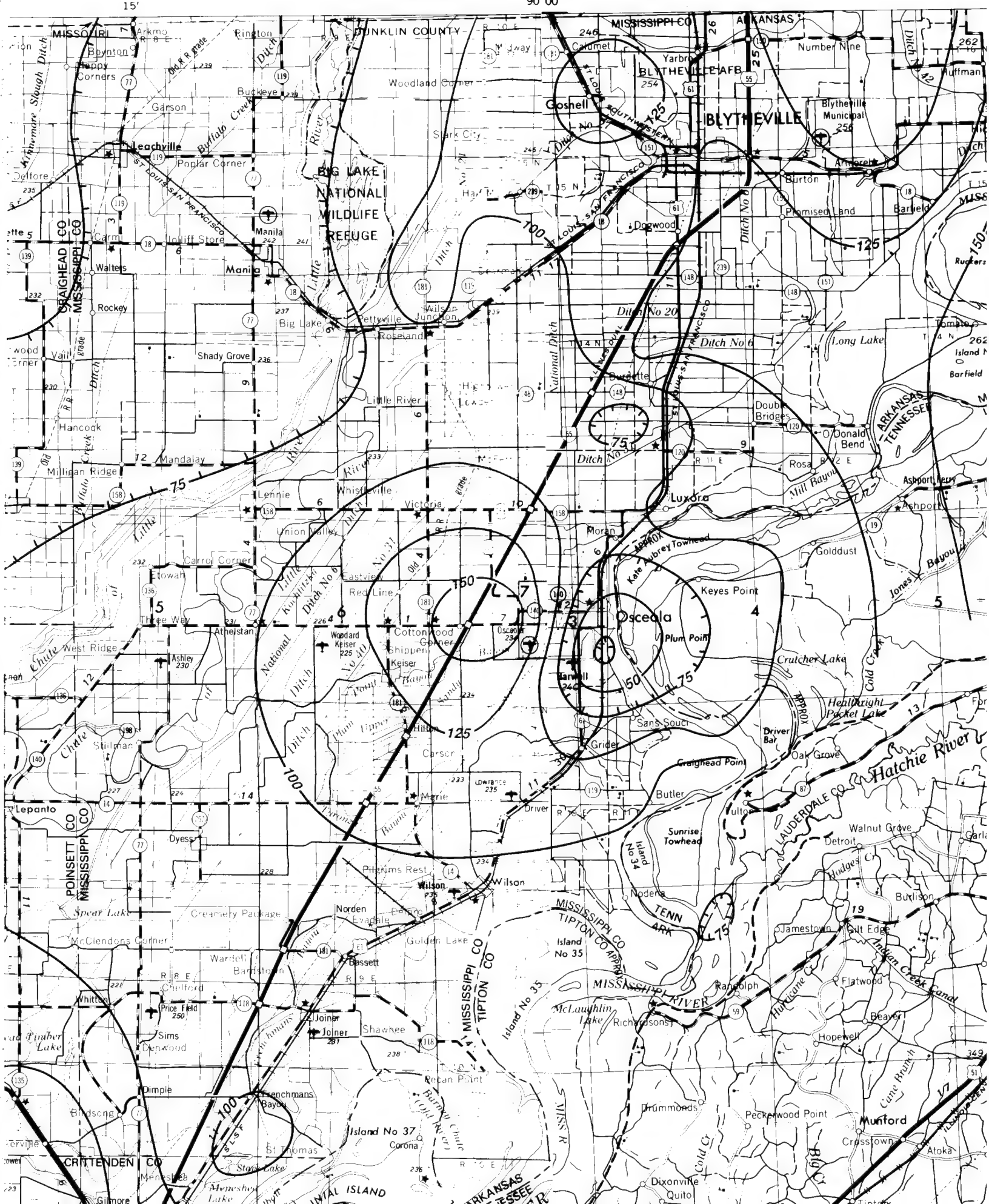


15'

91°00'



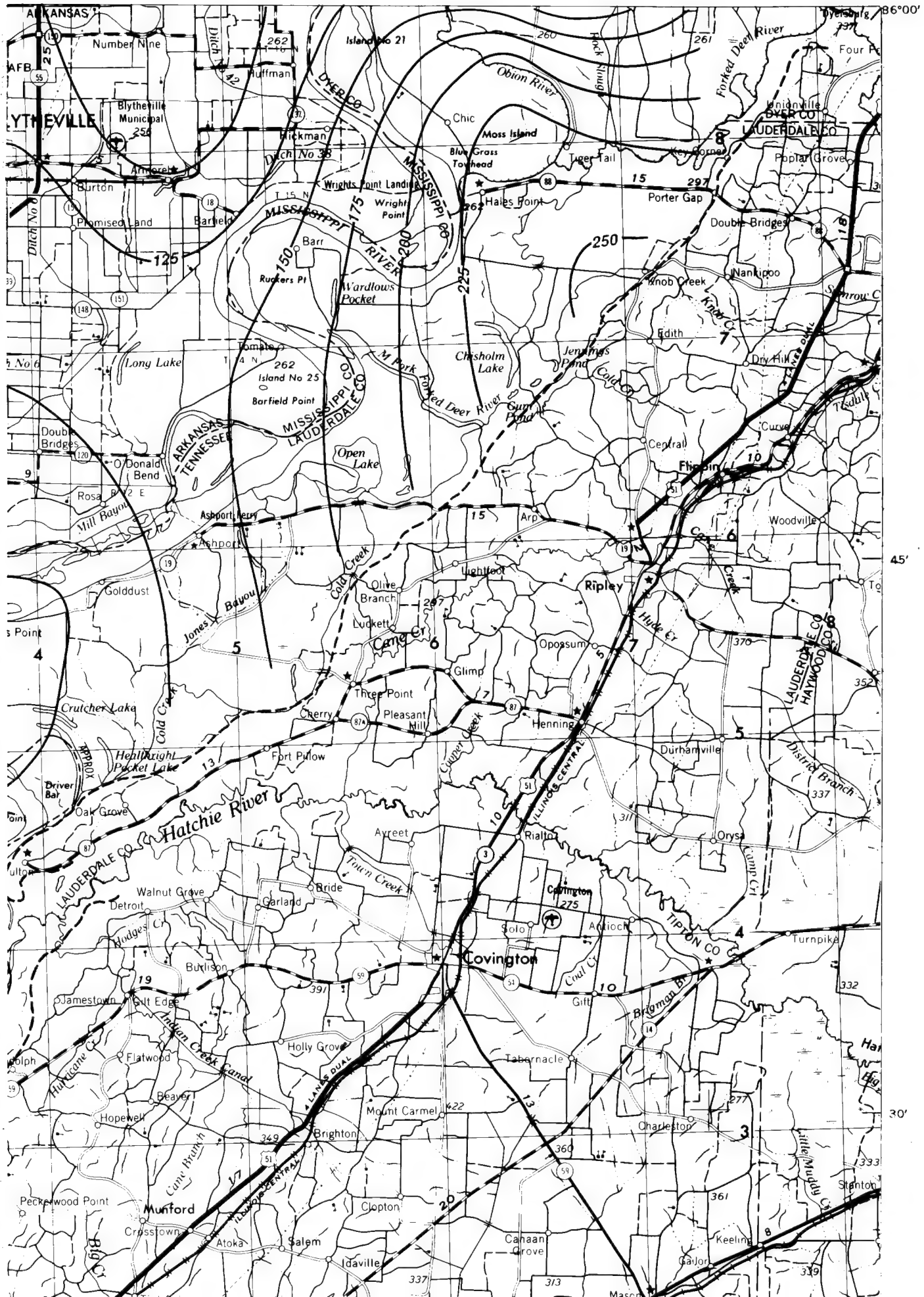


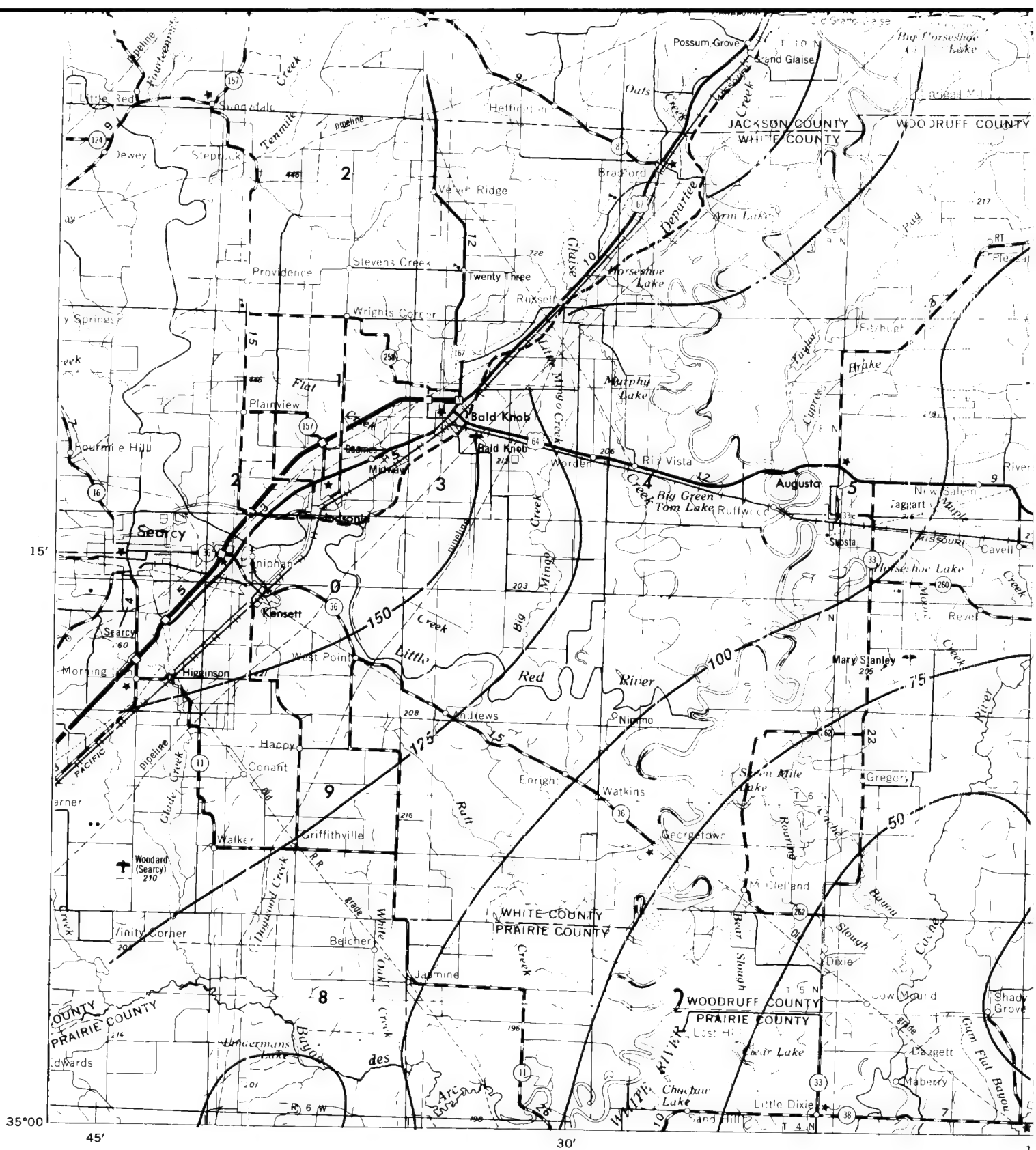


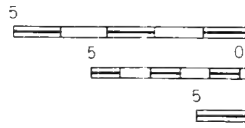
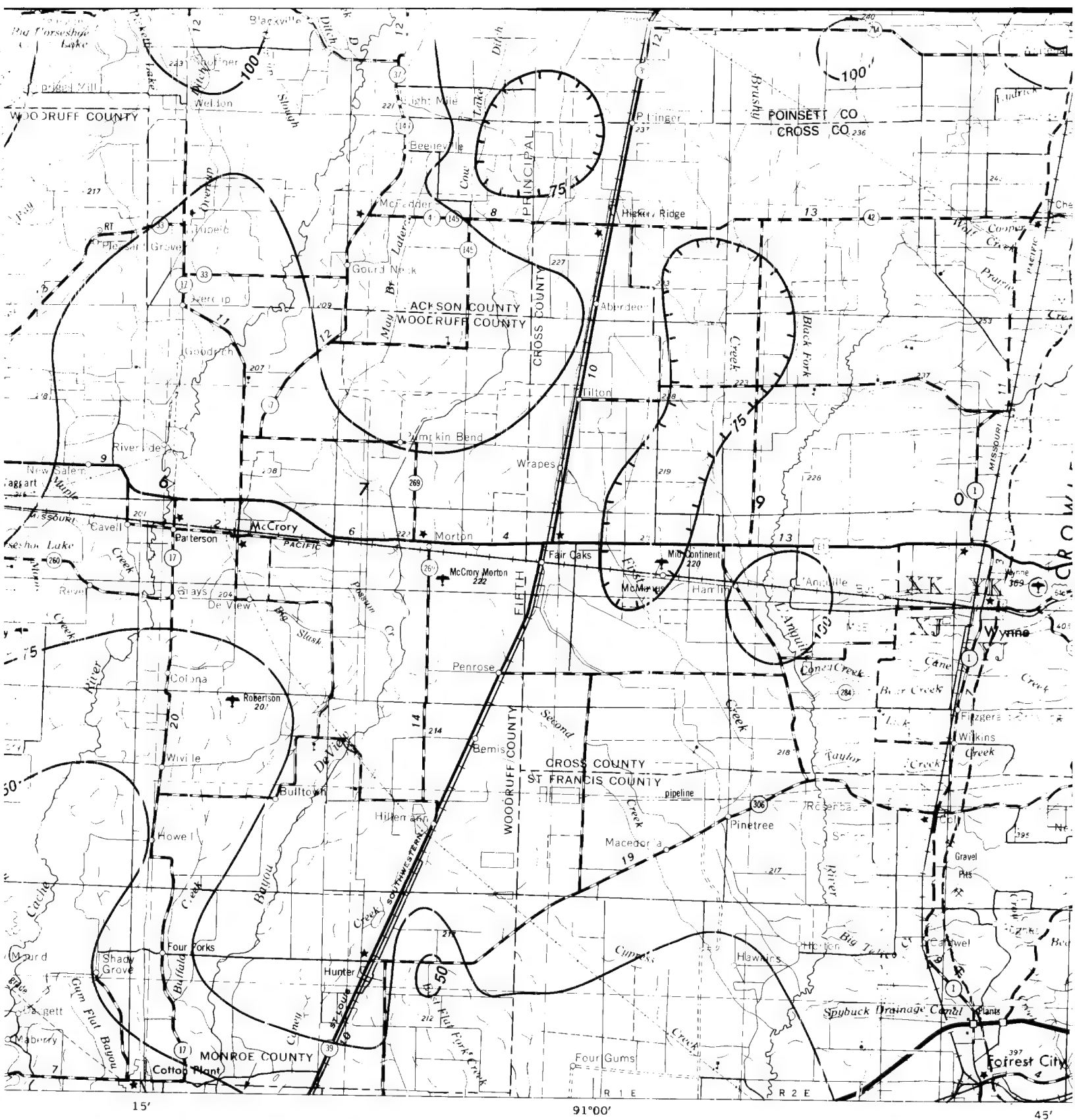
45'

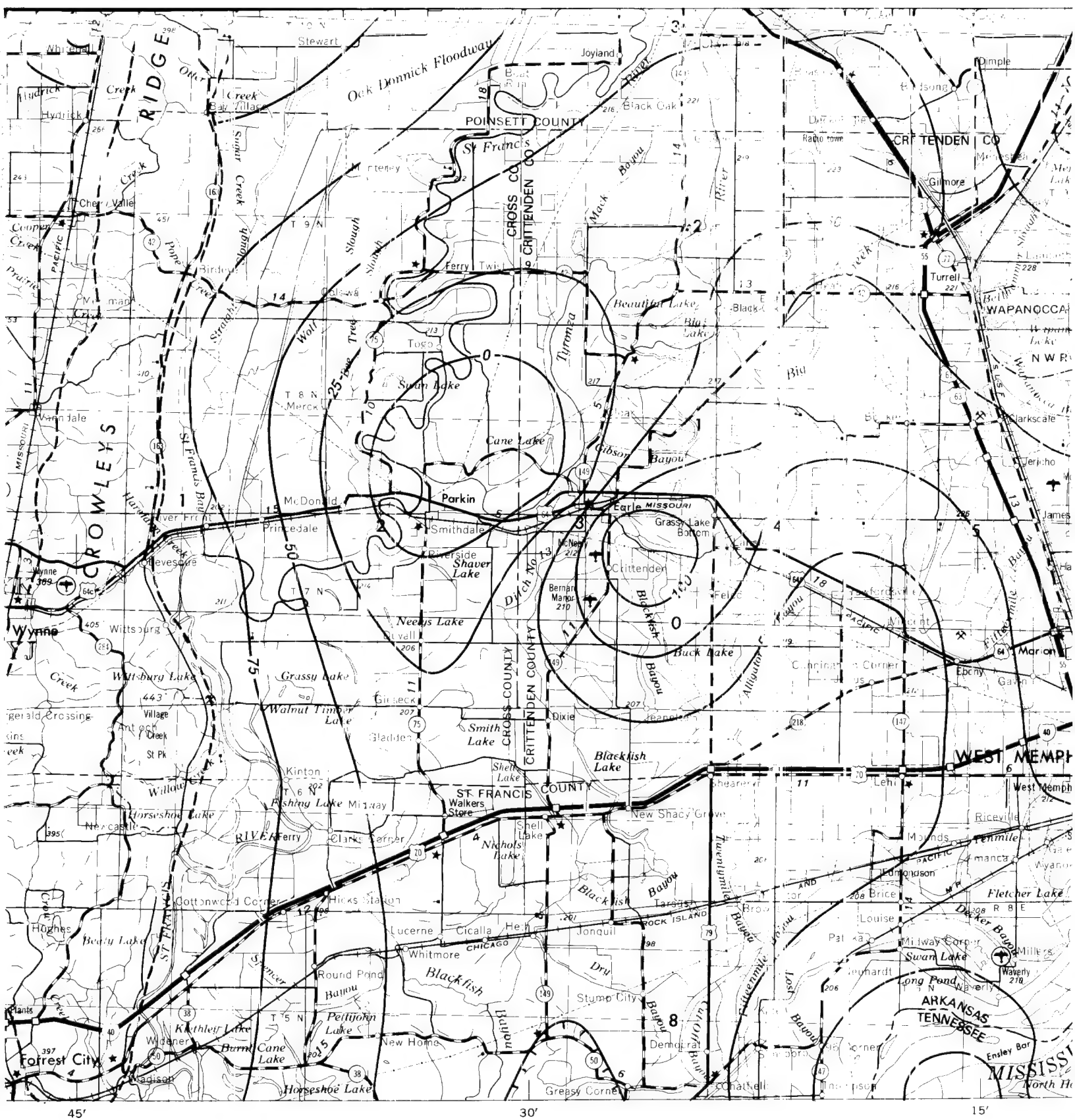
30'

86°00'

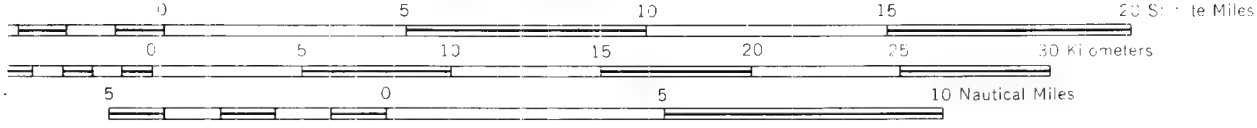


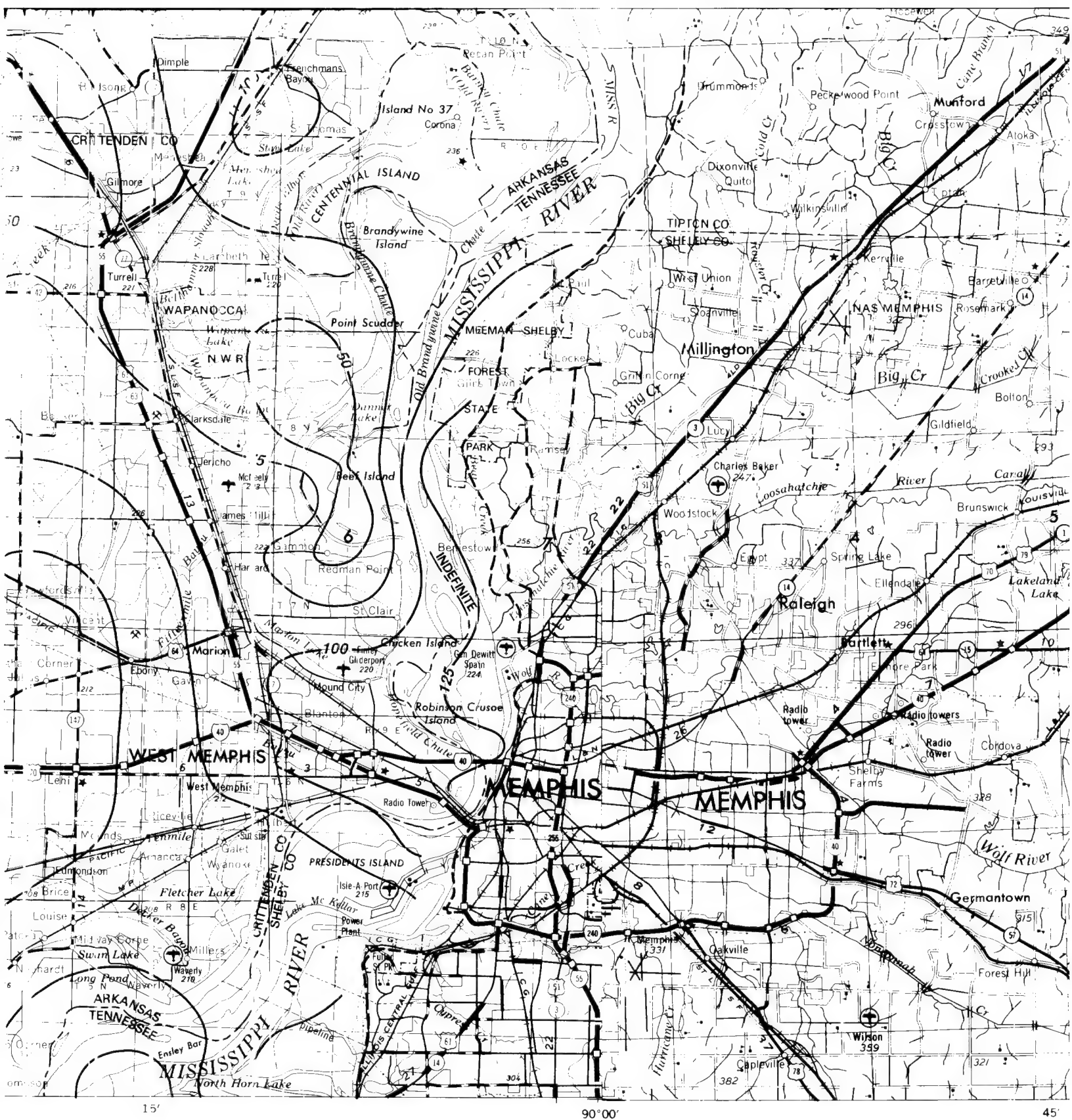






Scale 1:250,000





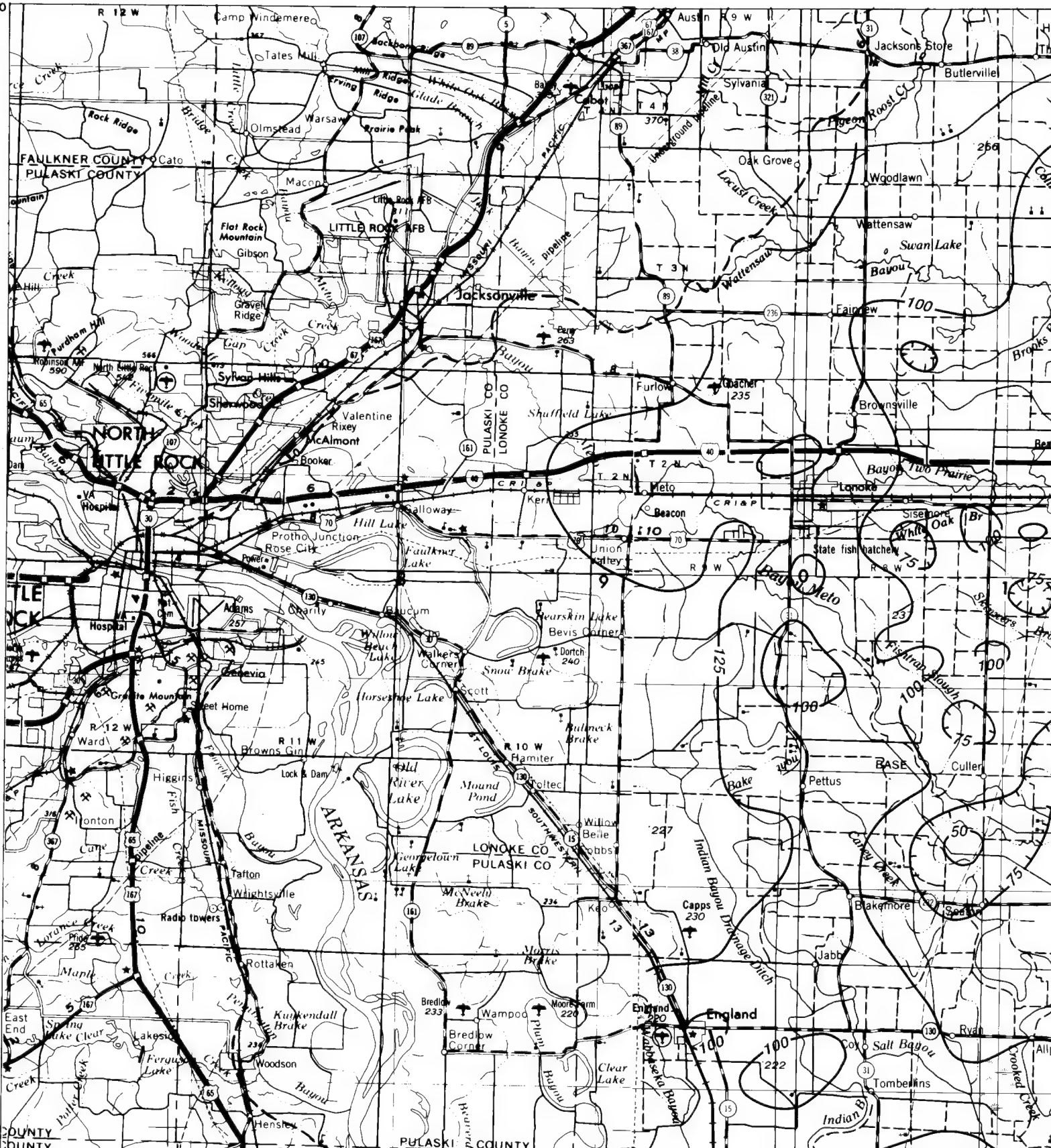
15'

92°00'

35°00'

45'

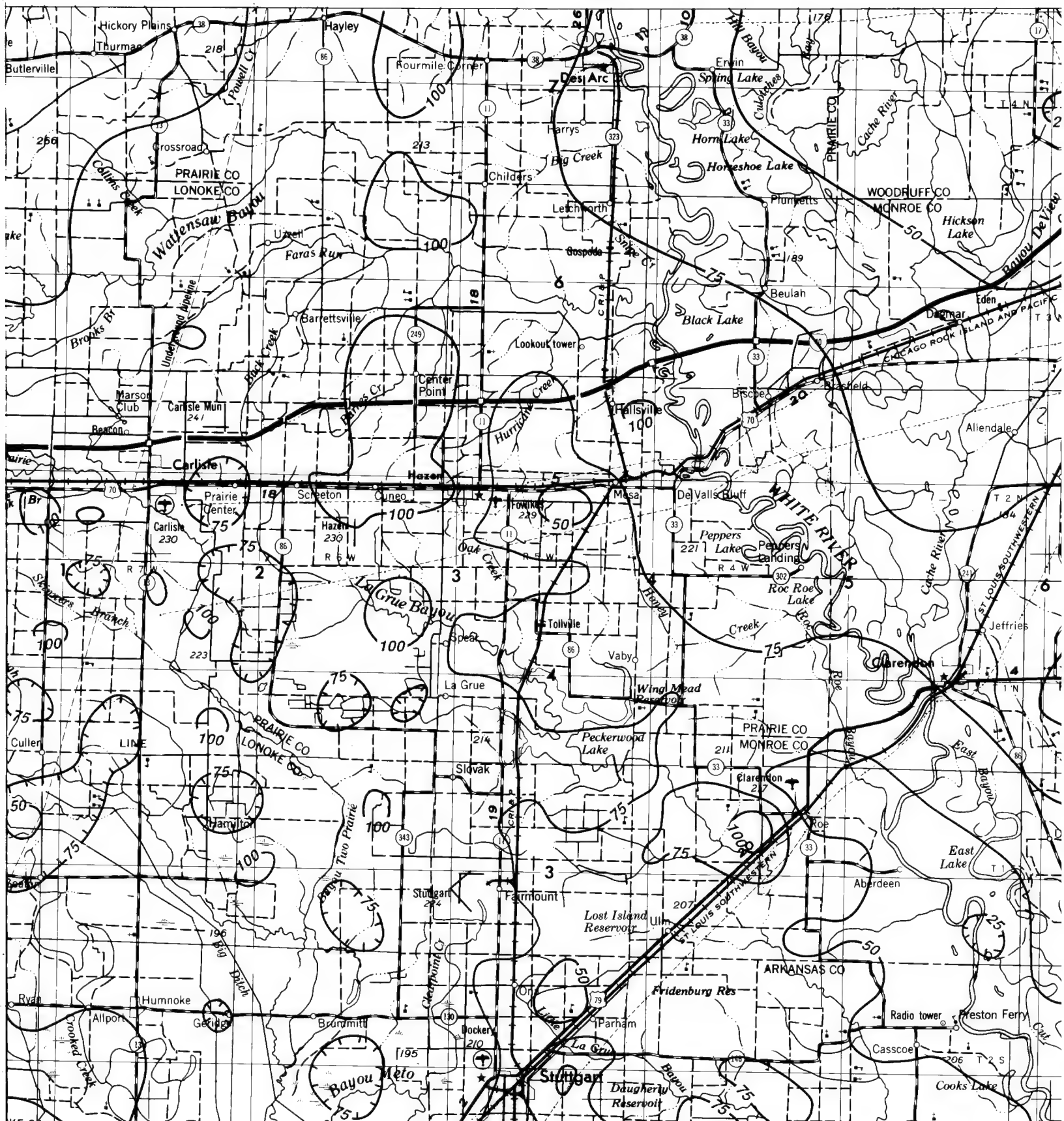
30'



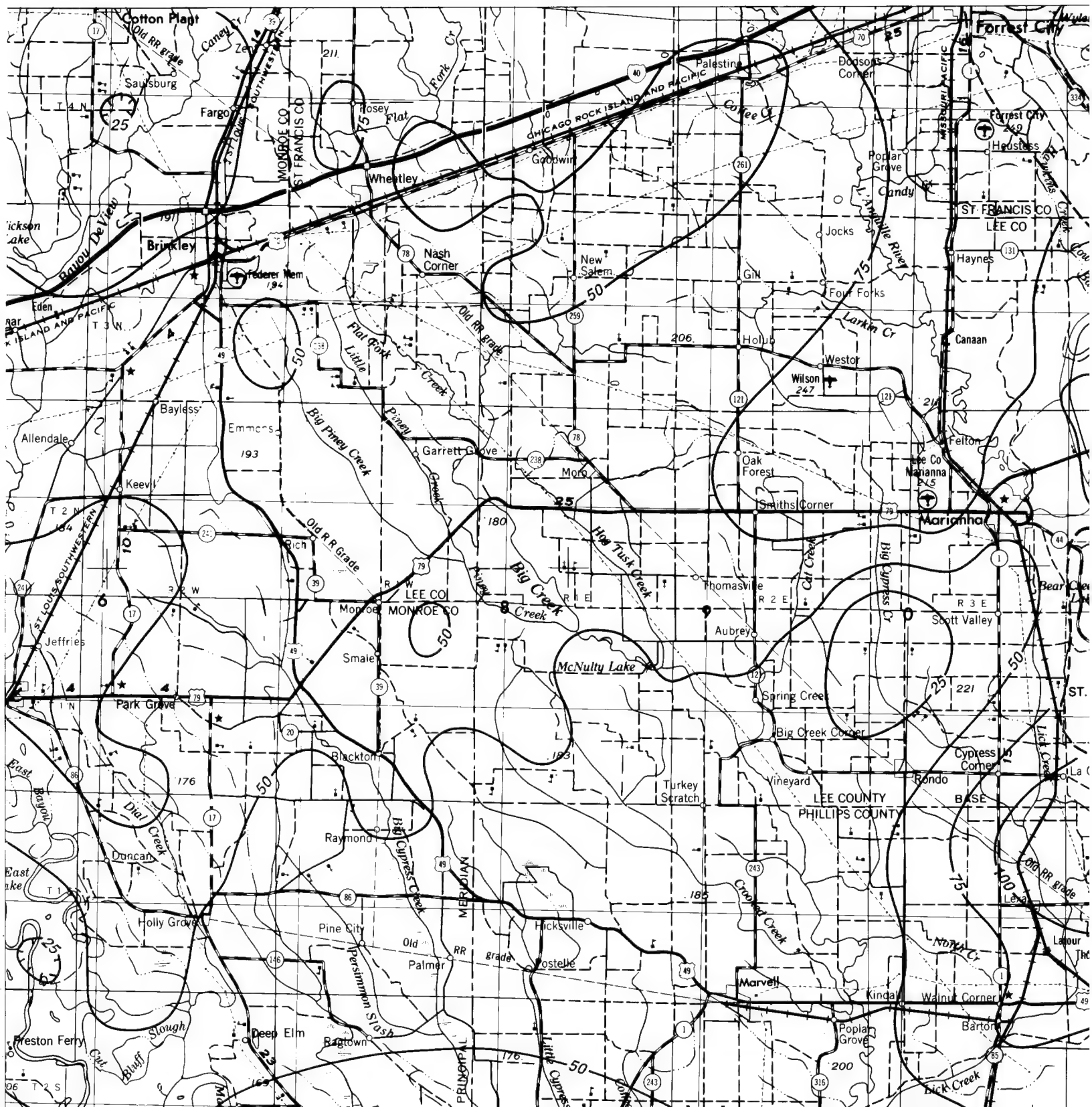
45'

30'

15'



45'

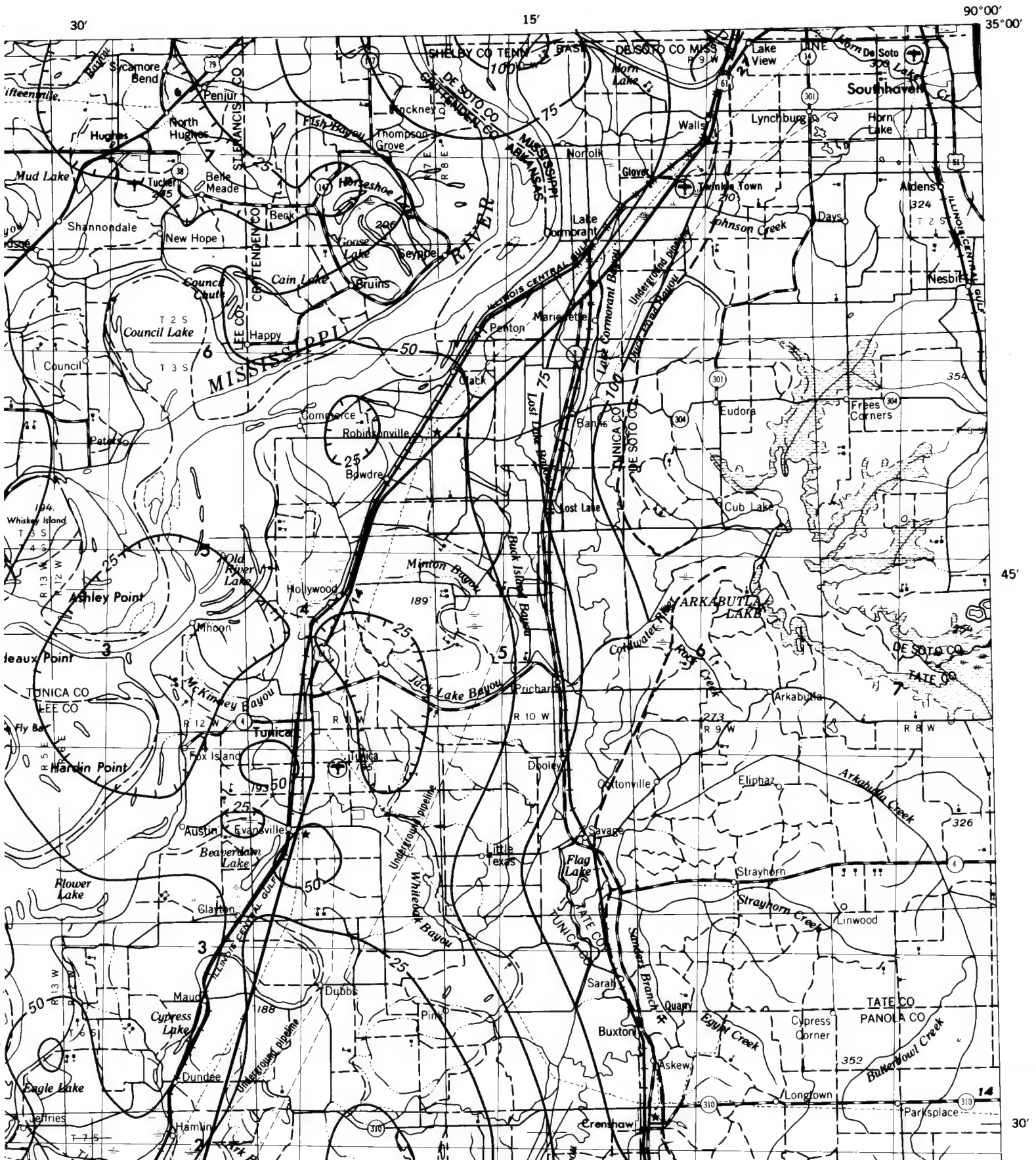


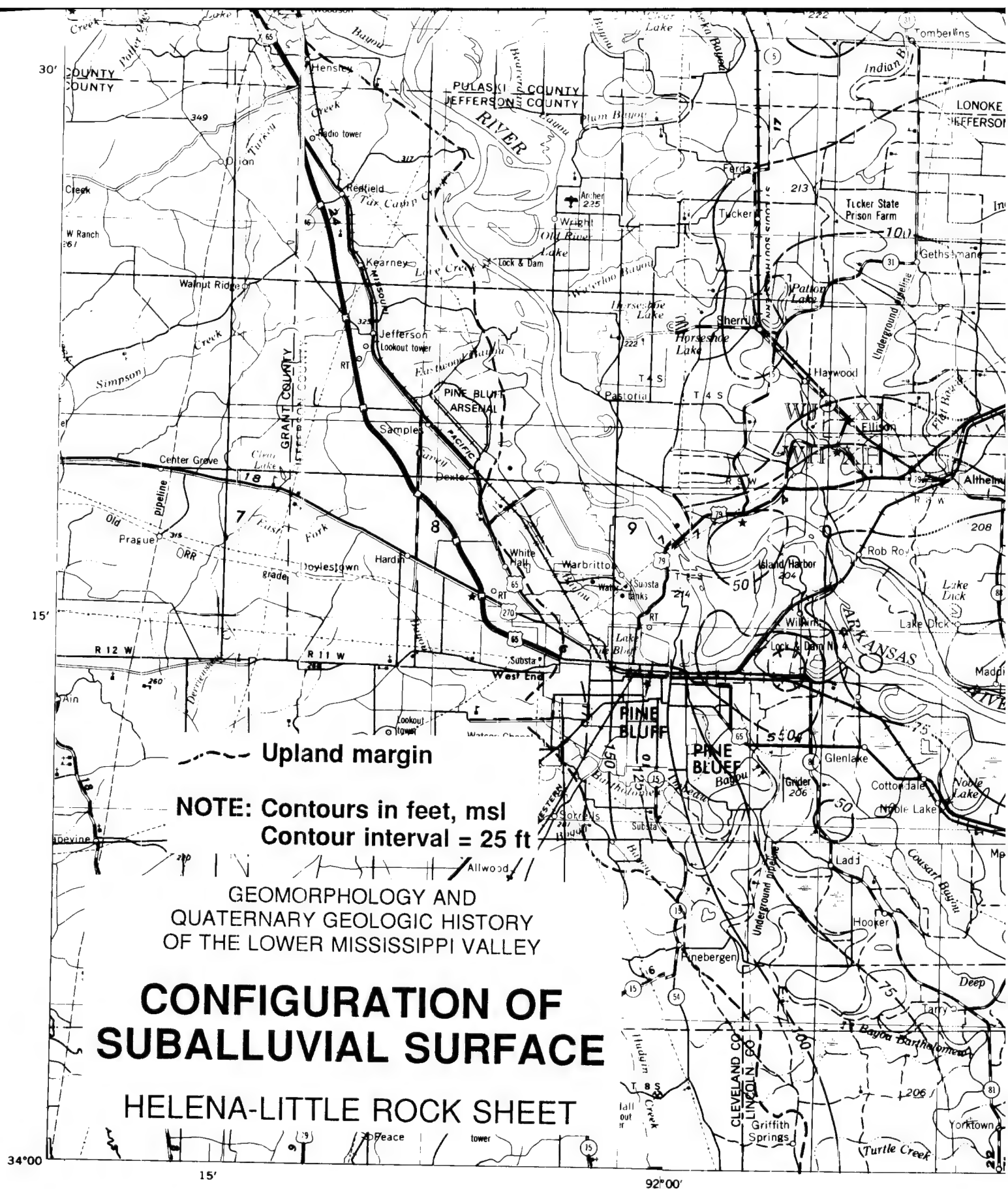
45'

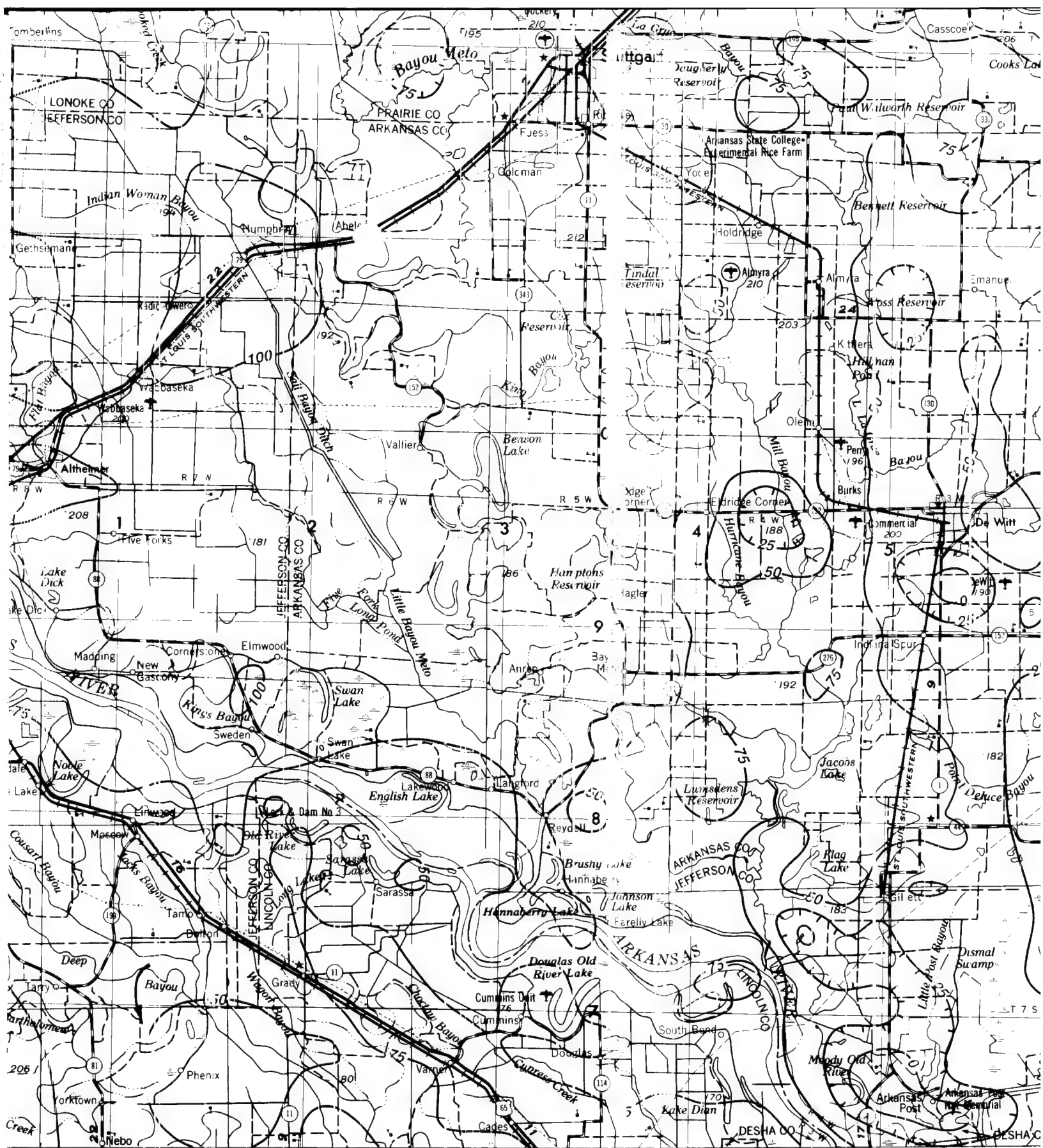
30'

15

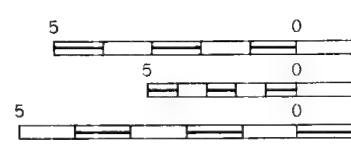






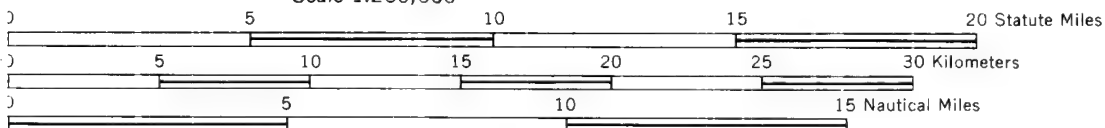


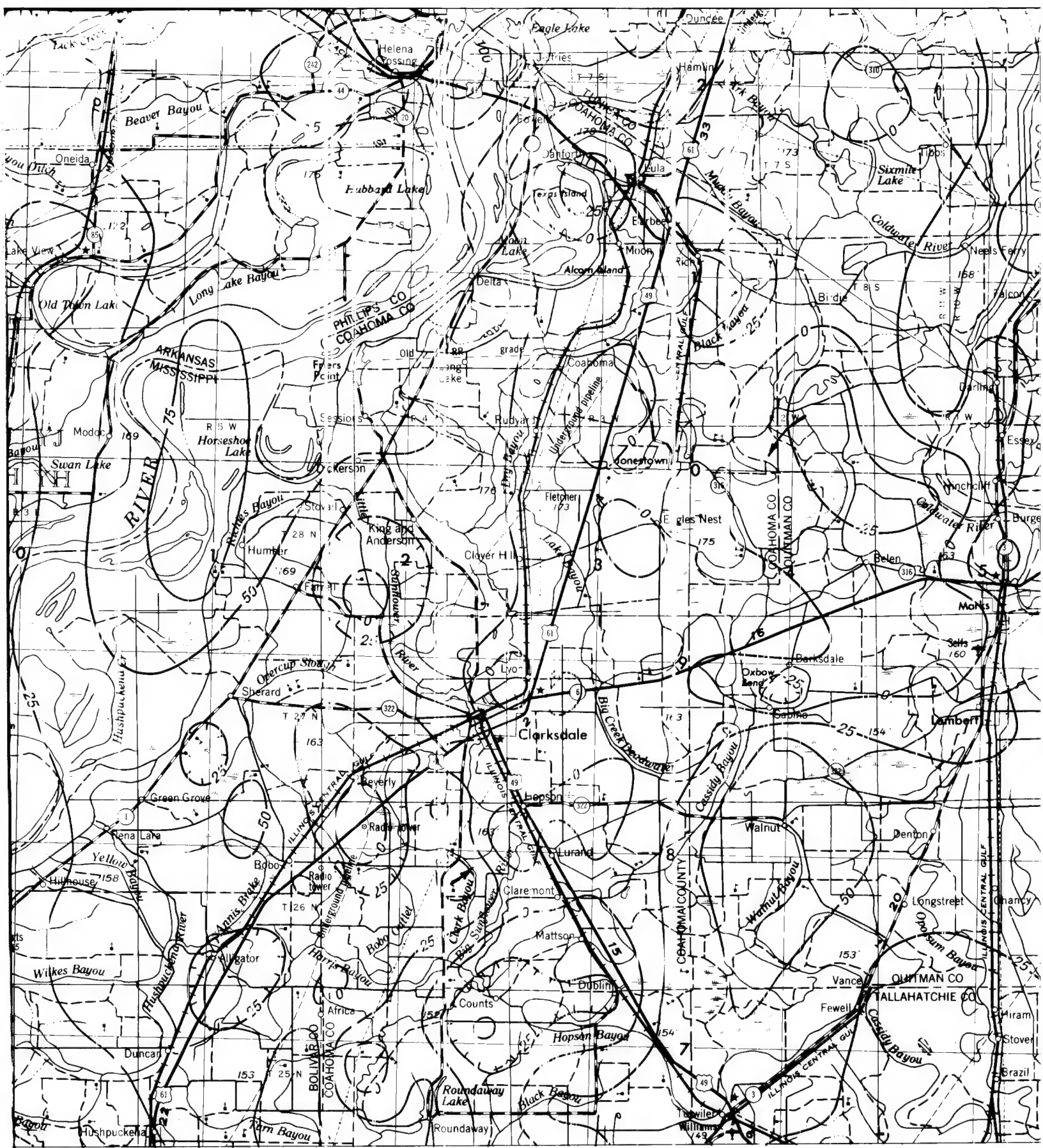
30'





Scale 1:250,000





45°

30°

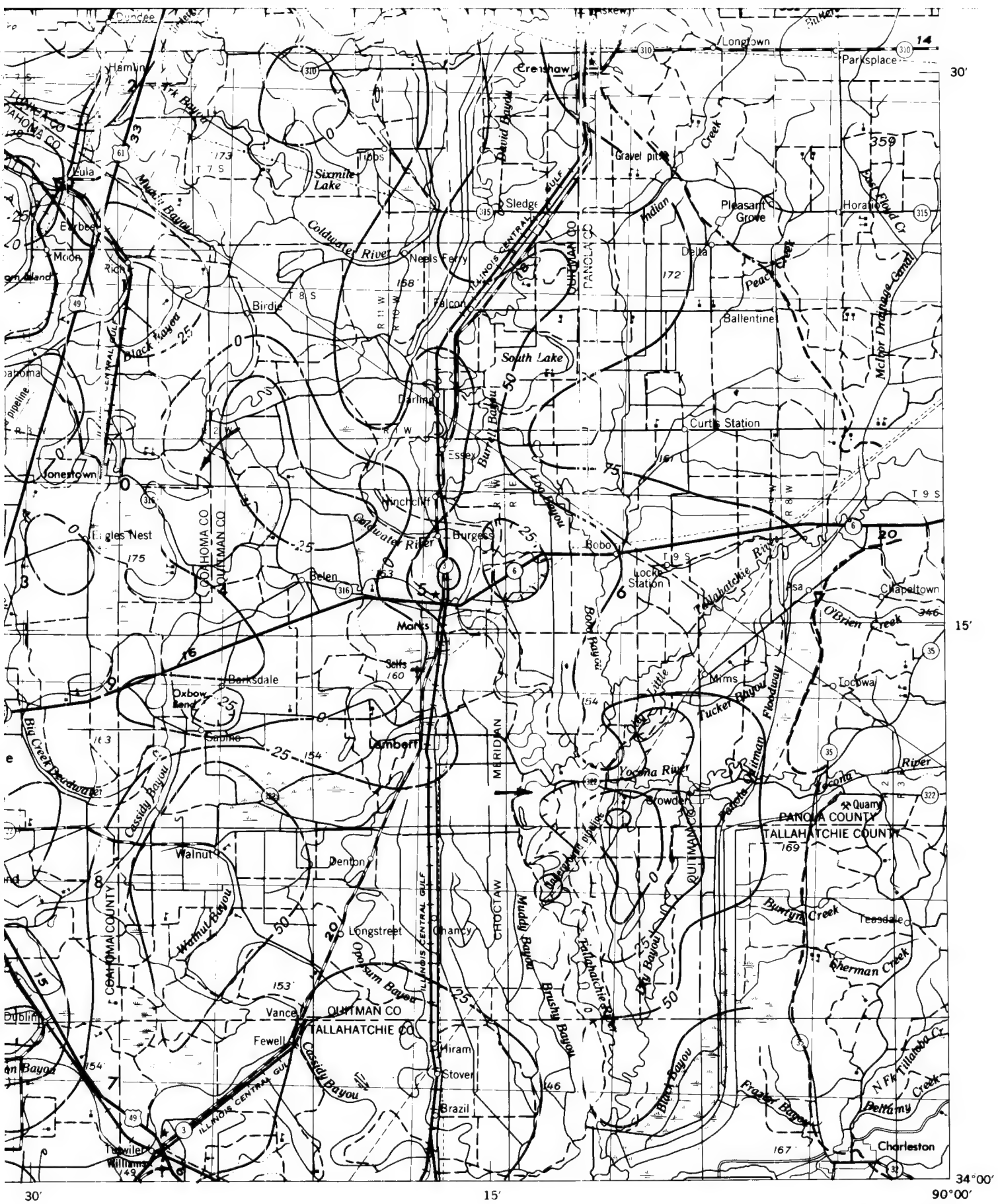
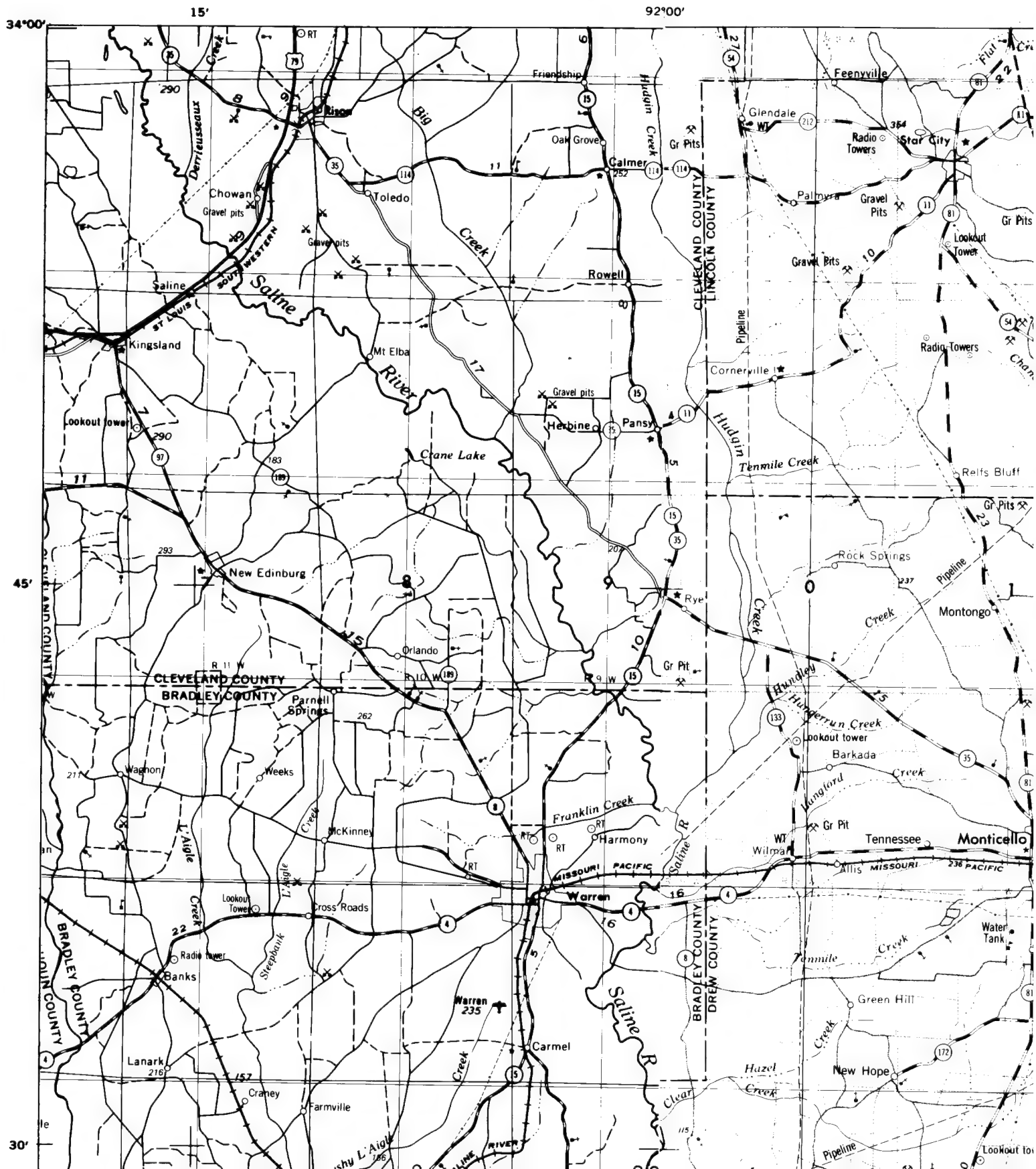
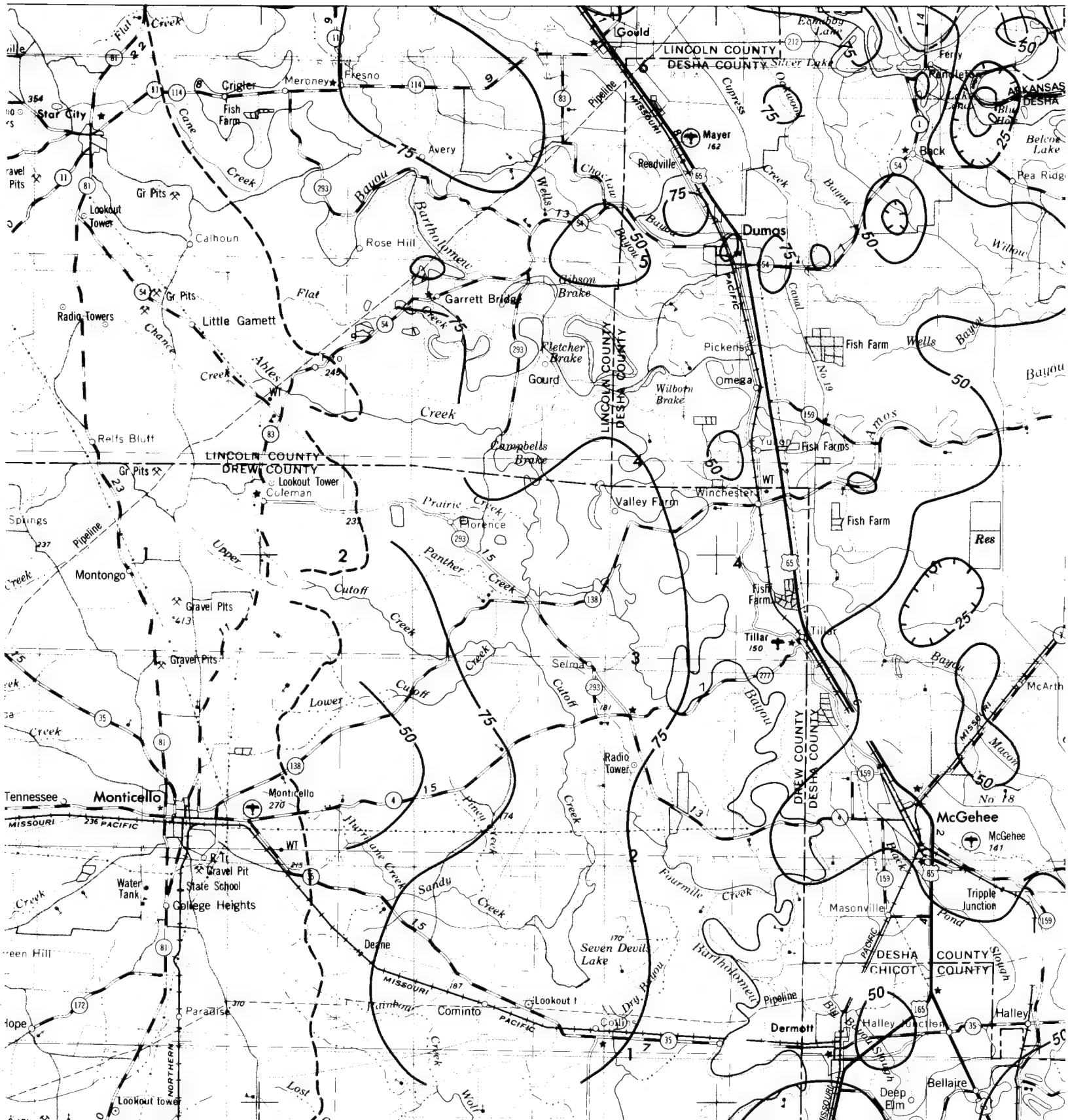


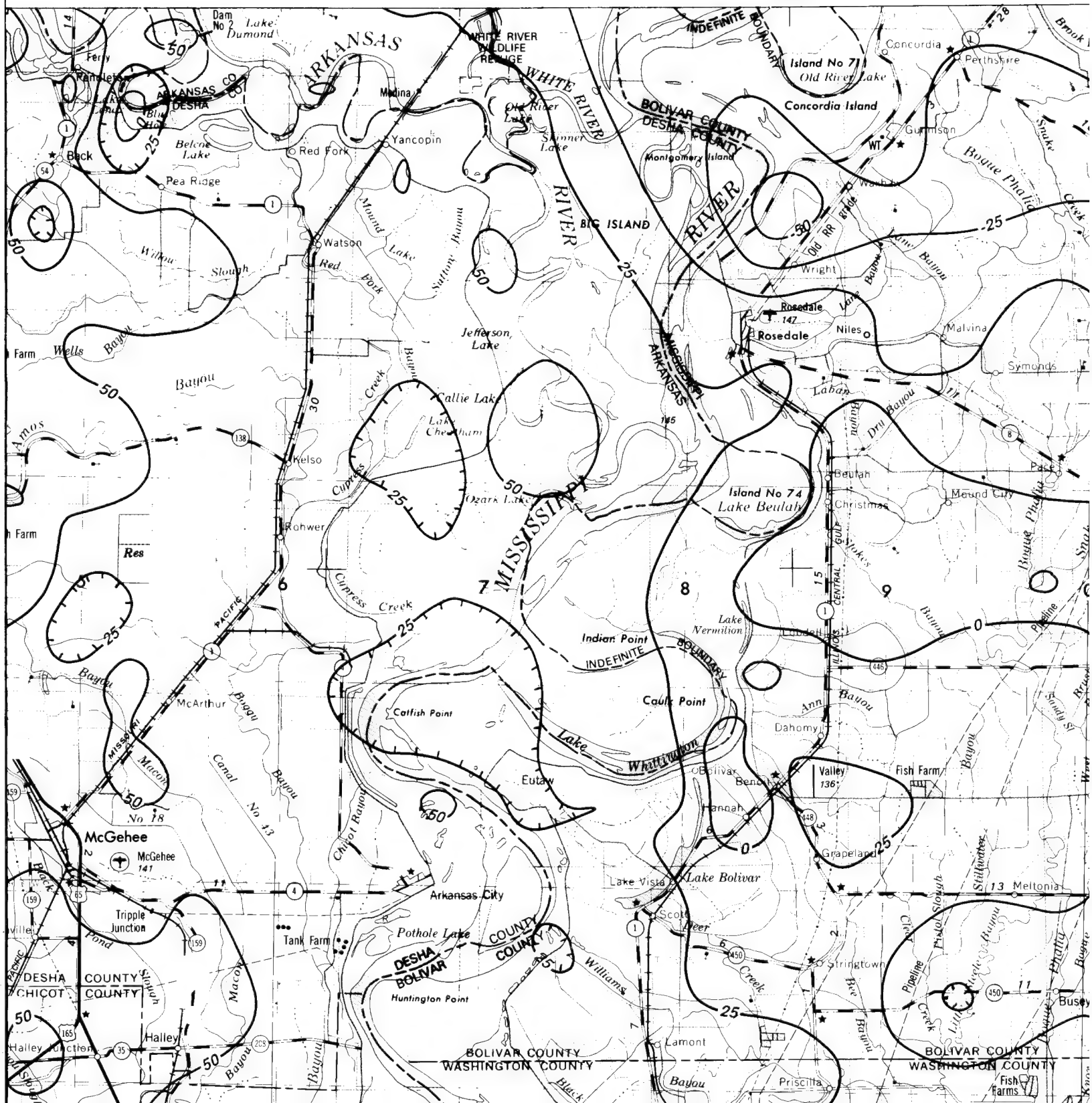
PLATE 20

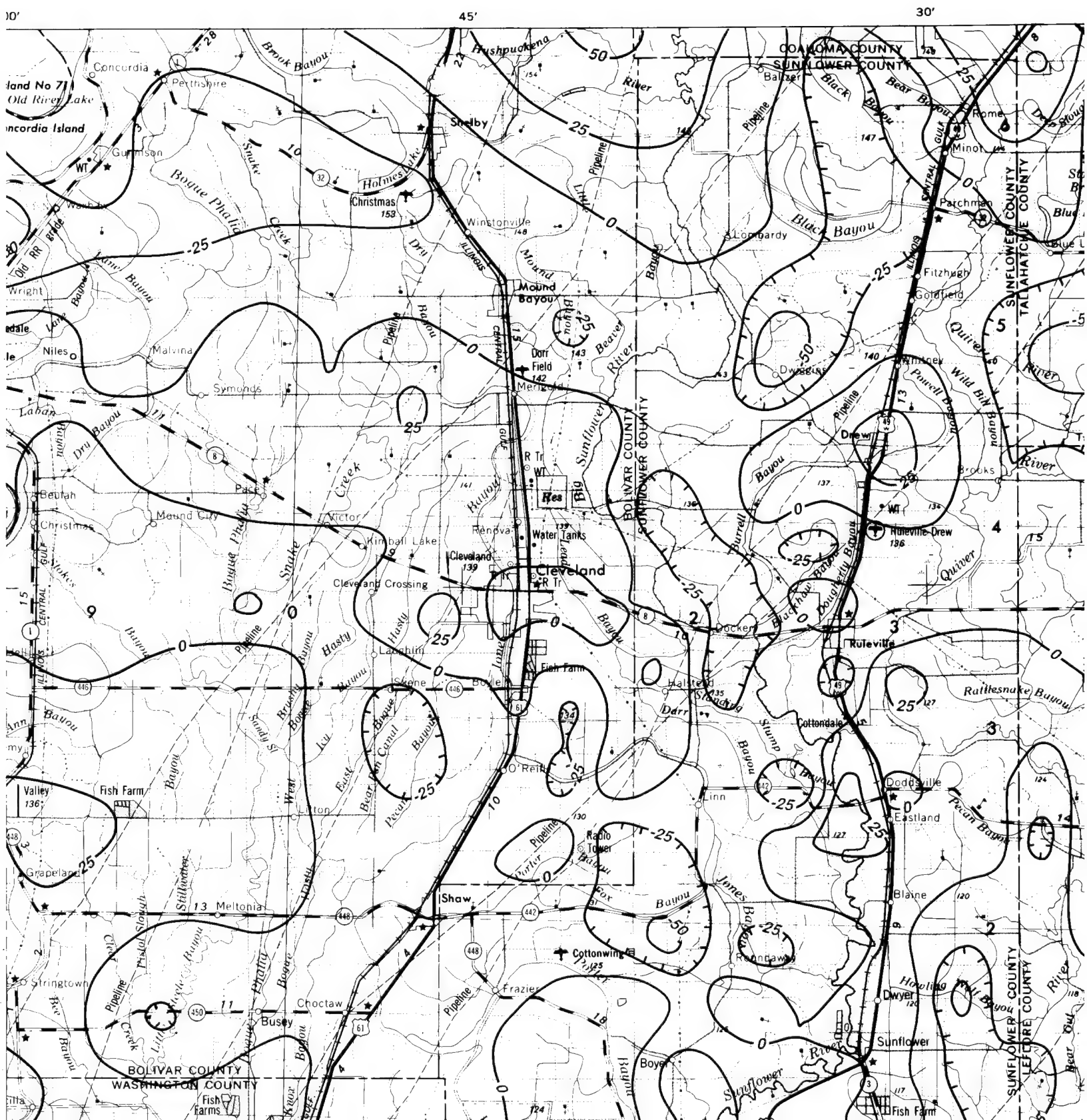


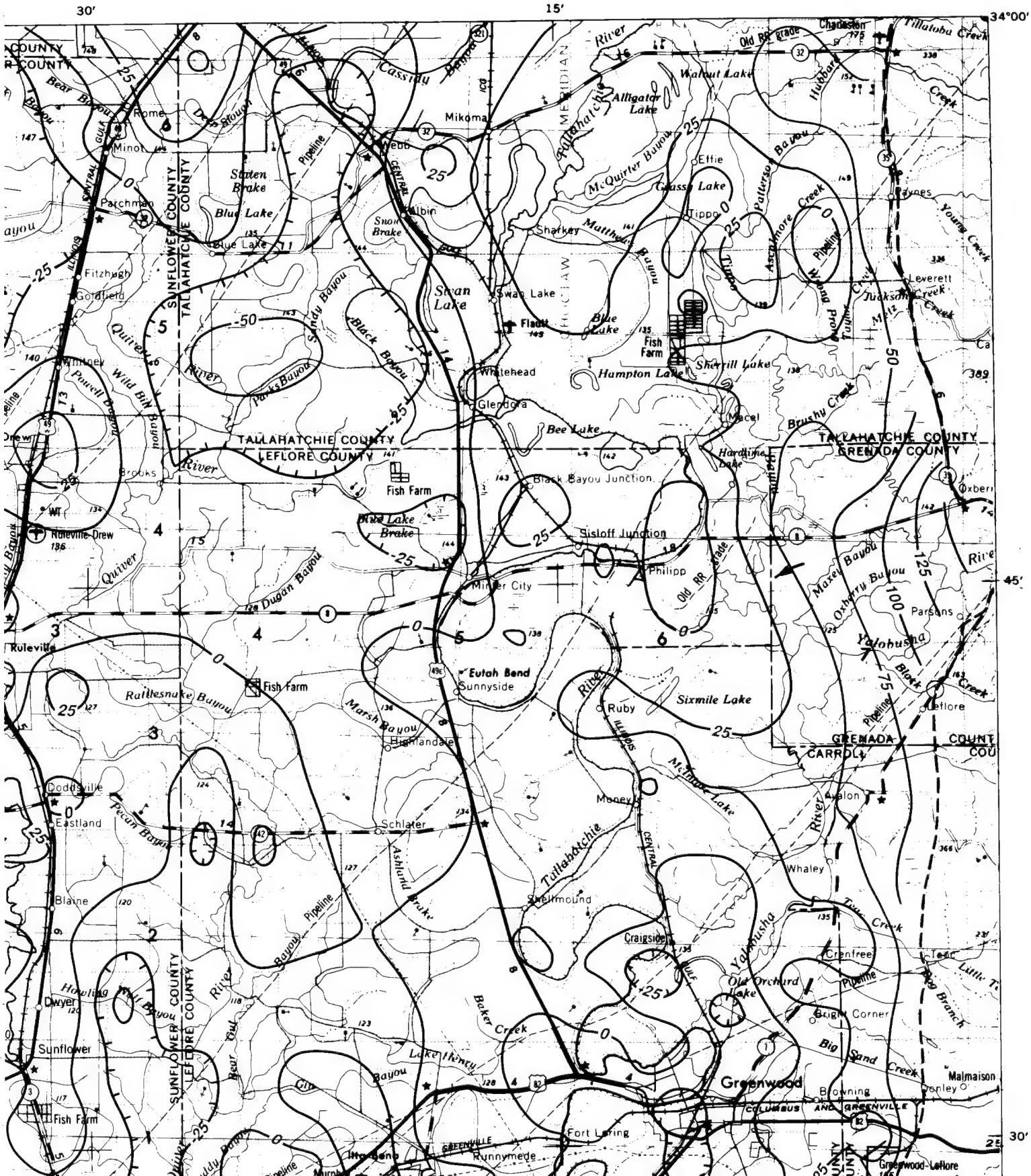
45'

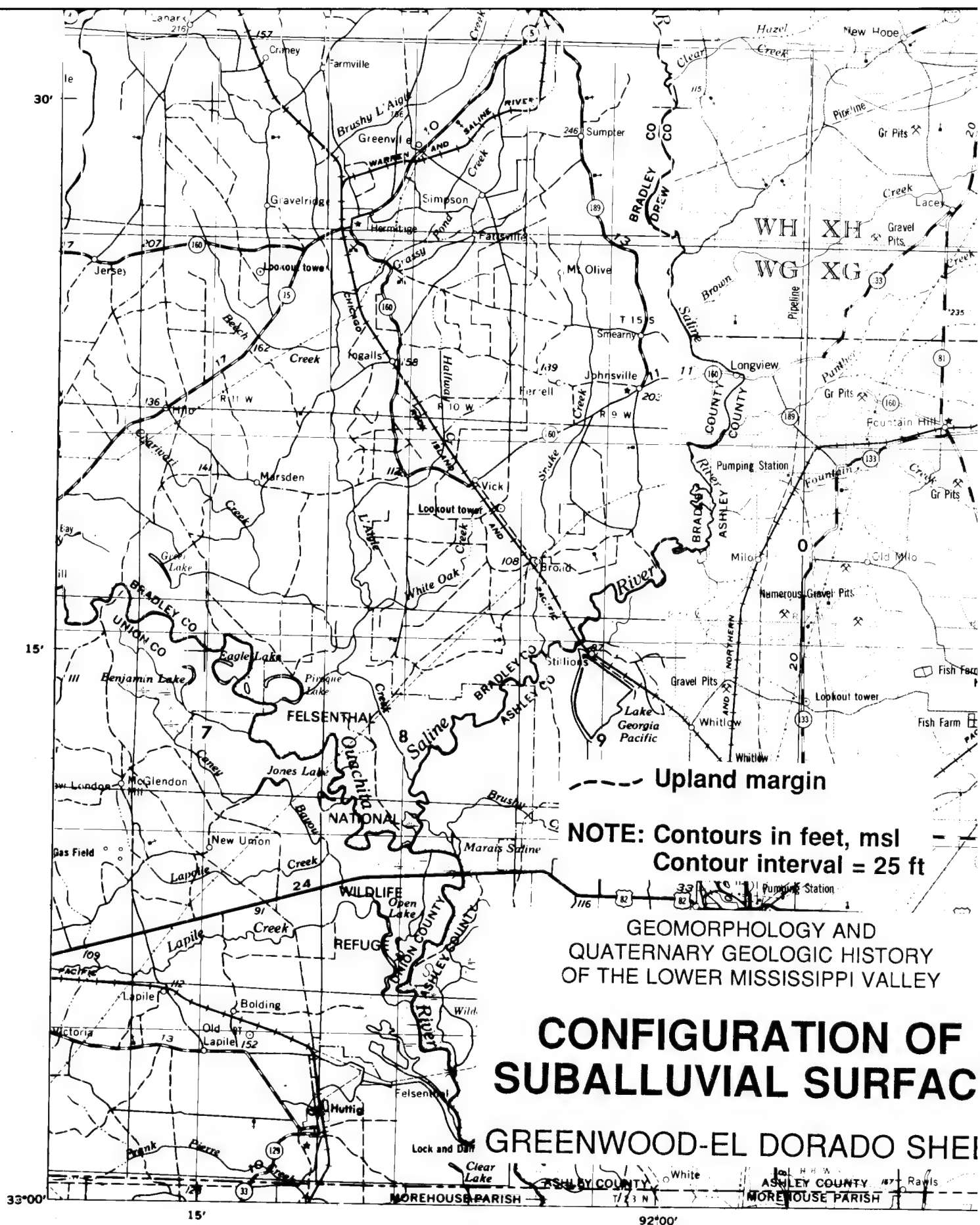
30'

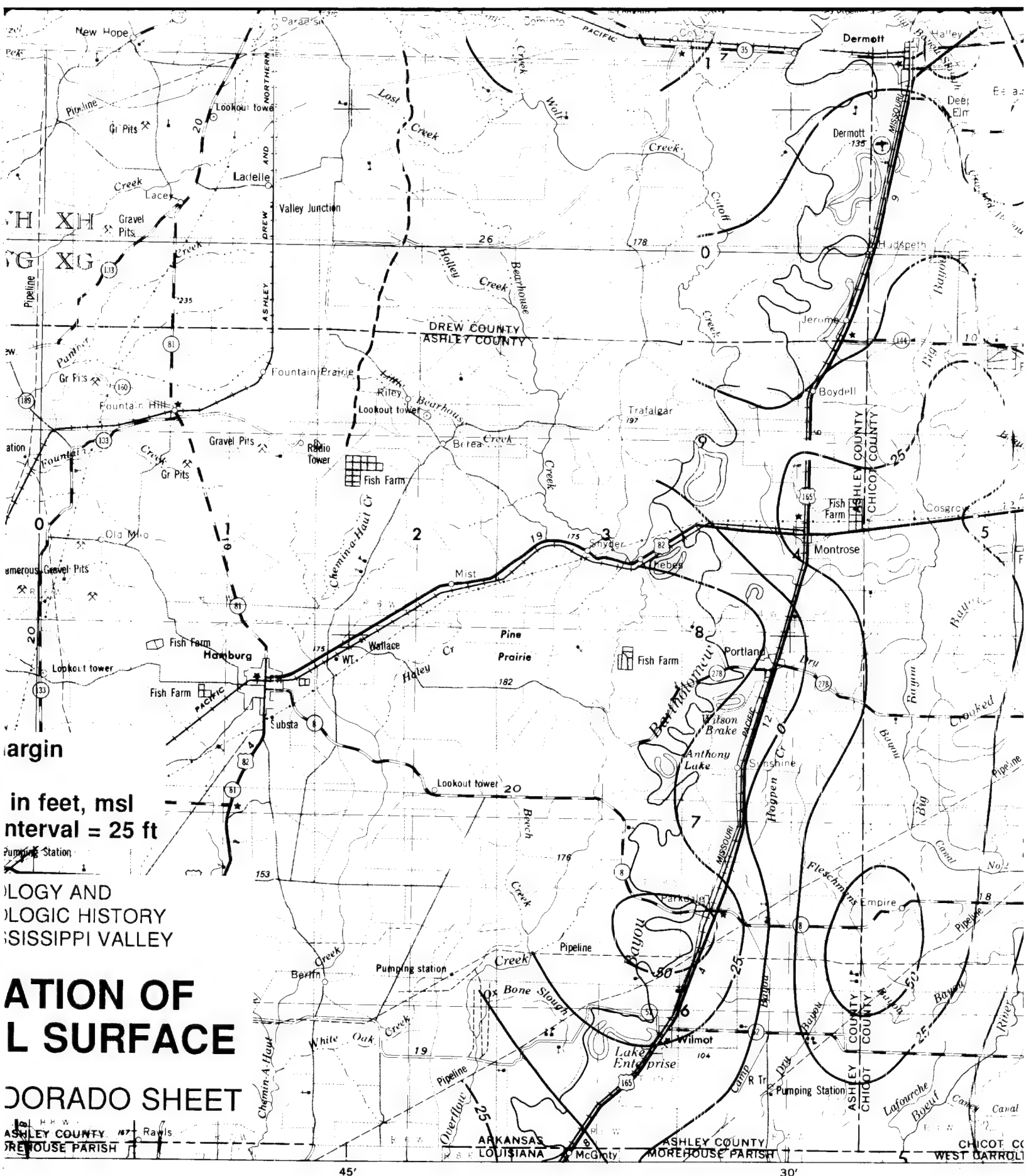












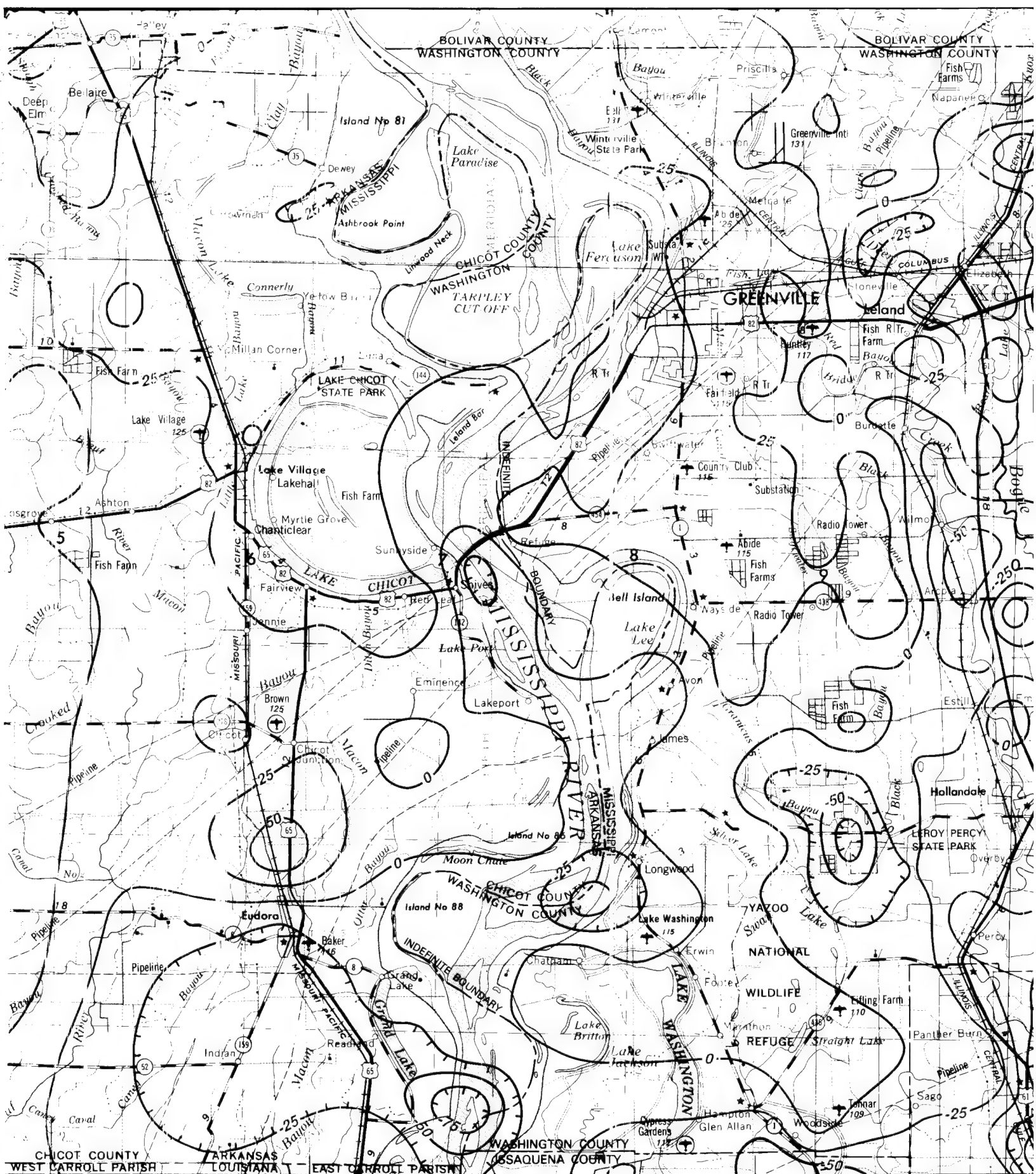
margin
in feet, msl
interval = 25 ft

LOGY AND
OLOGIC HISTORY
MISSISSIPPI VALLEY

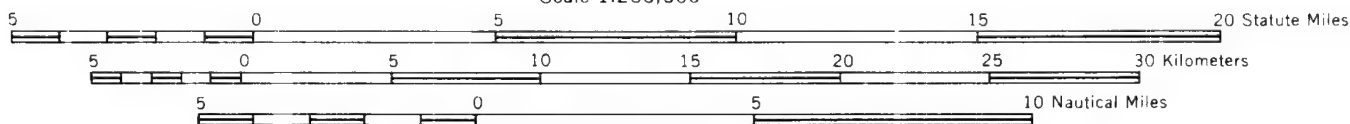
ATION OF L SURFACE

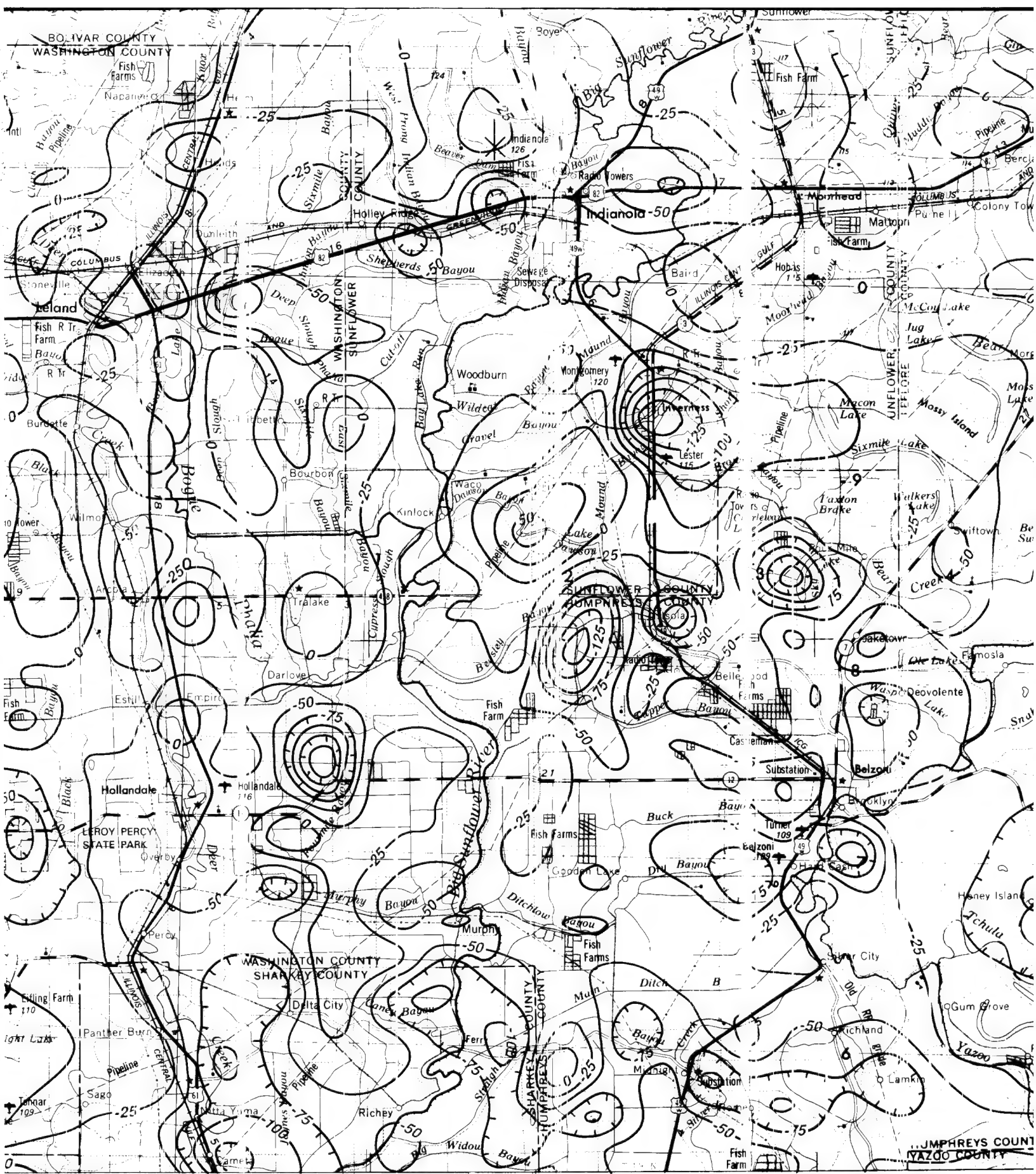
JORADO SHEET

ASHLEY COUNTY
REHOUSE PARISH
45'
30'
5
CHICOT CO
WEST CARROLL



Scale 1:250,000





45'

30'

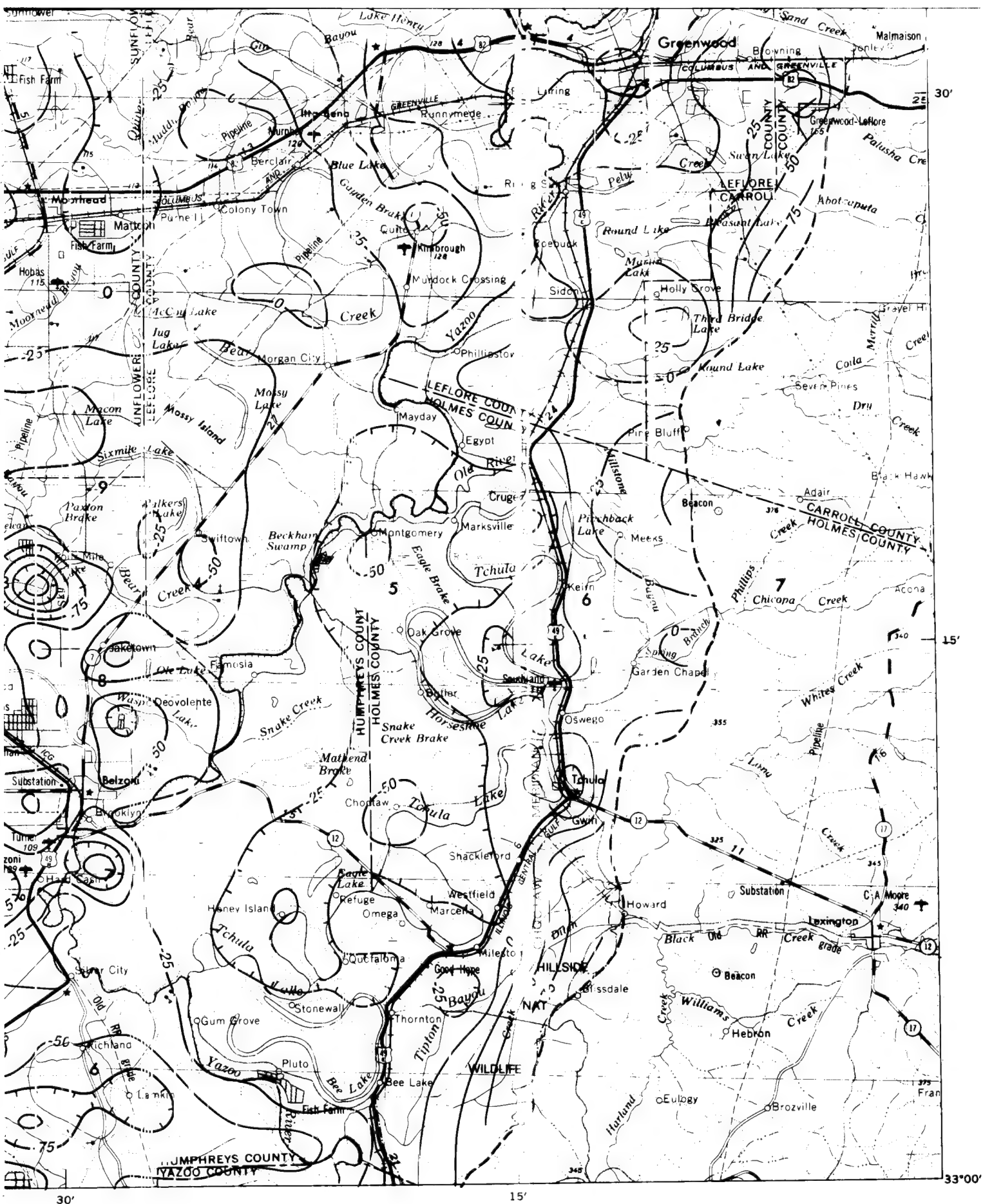


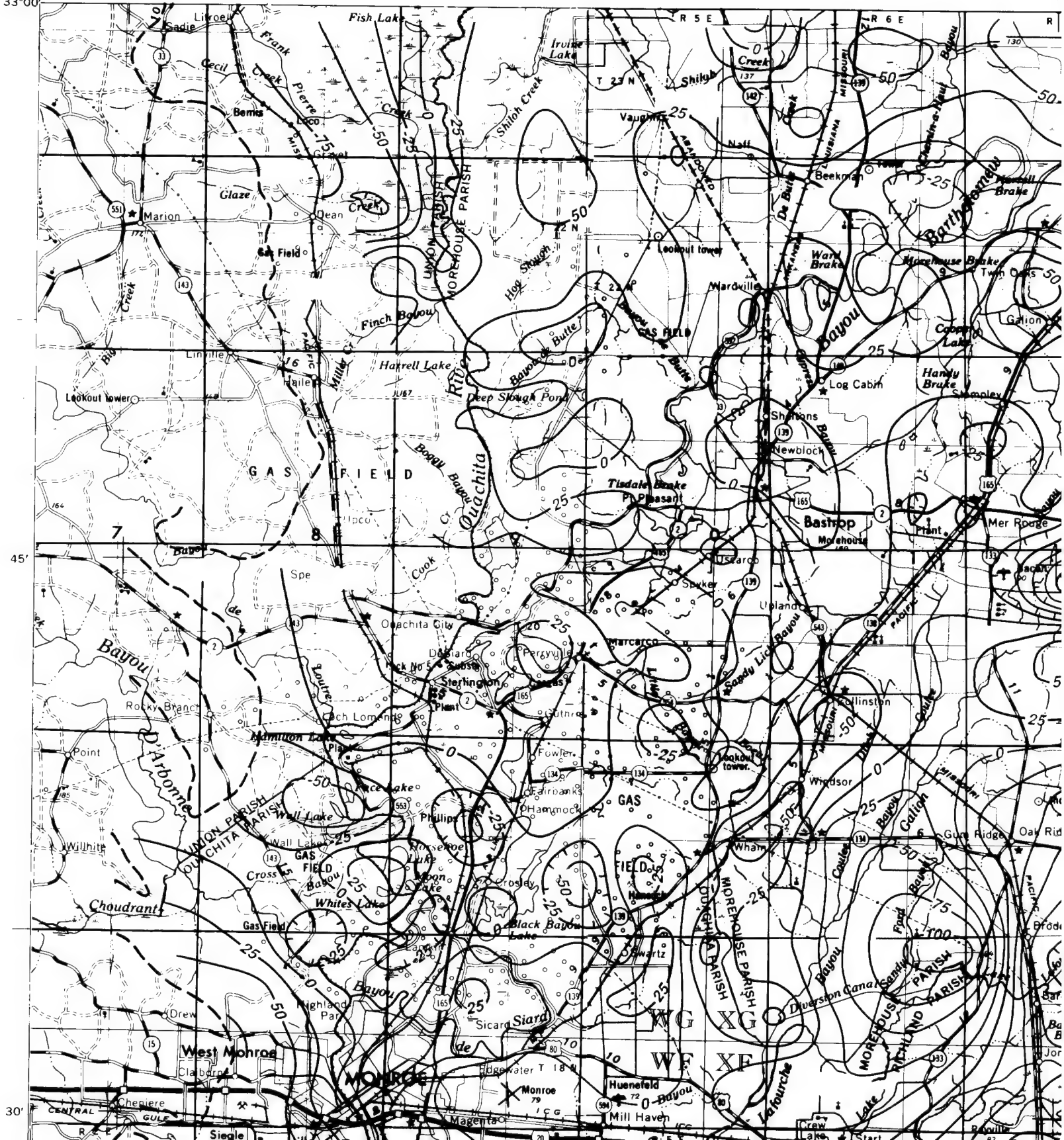
PLATE 21

33°00'

15'

92°00'

4

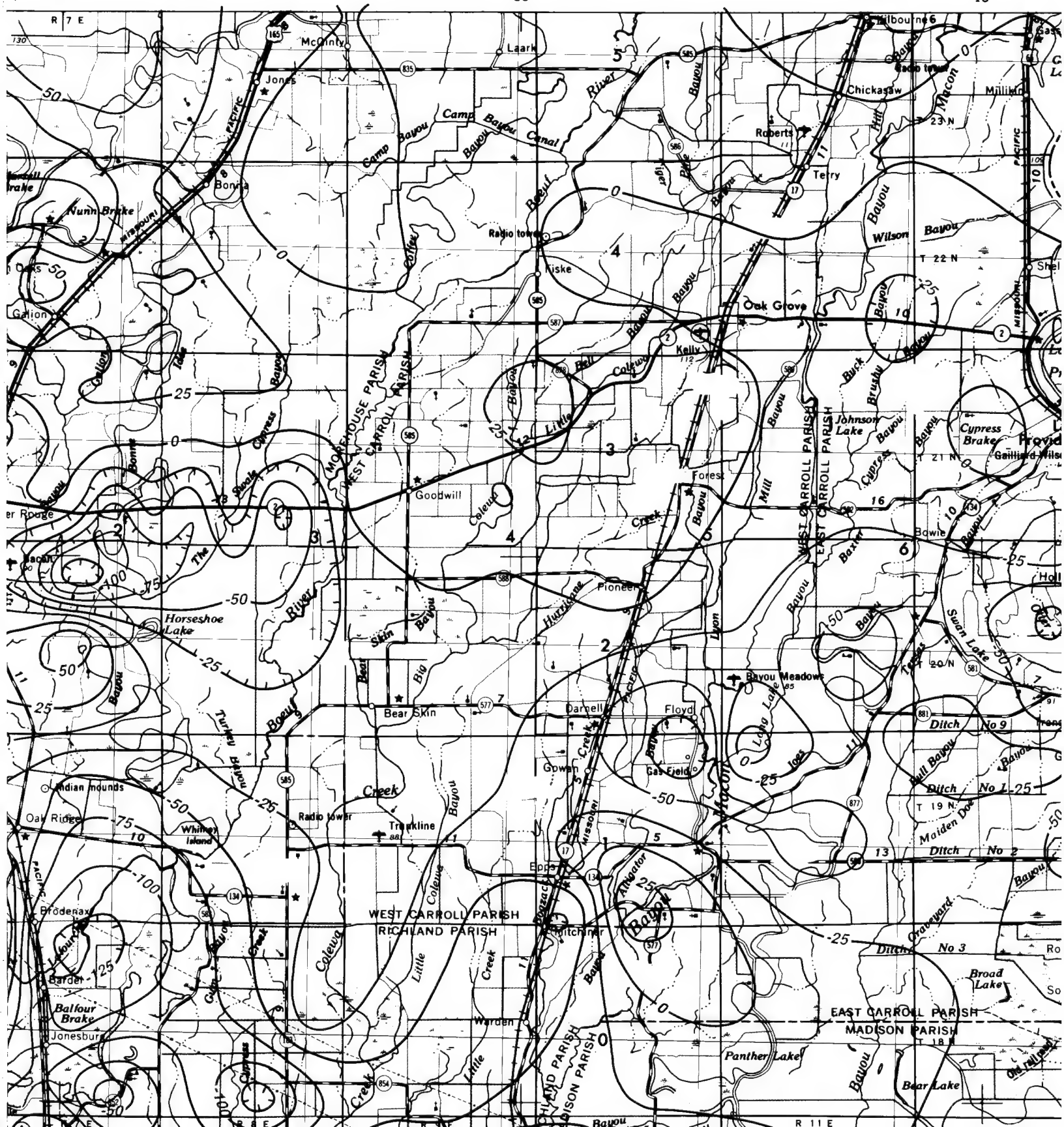


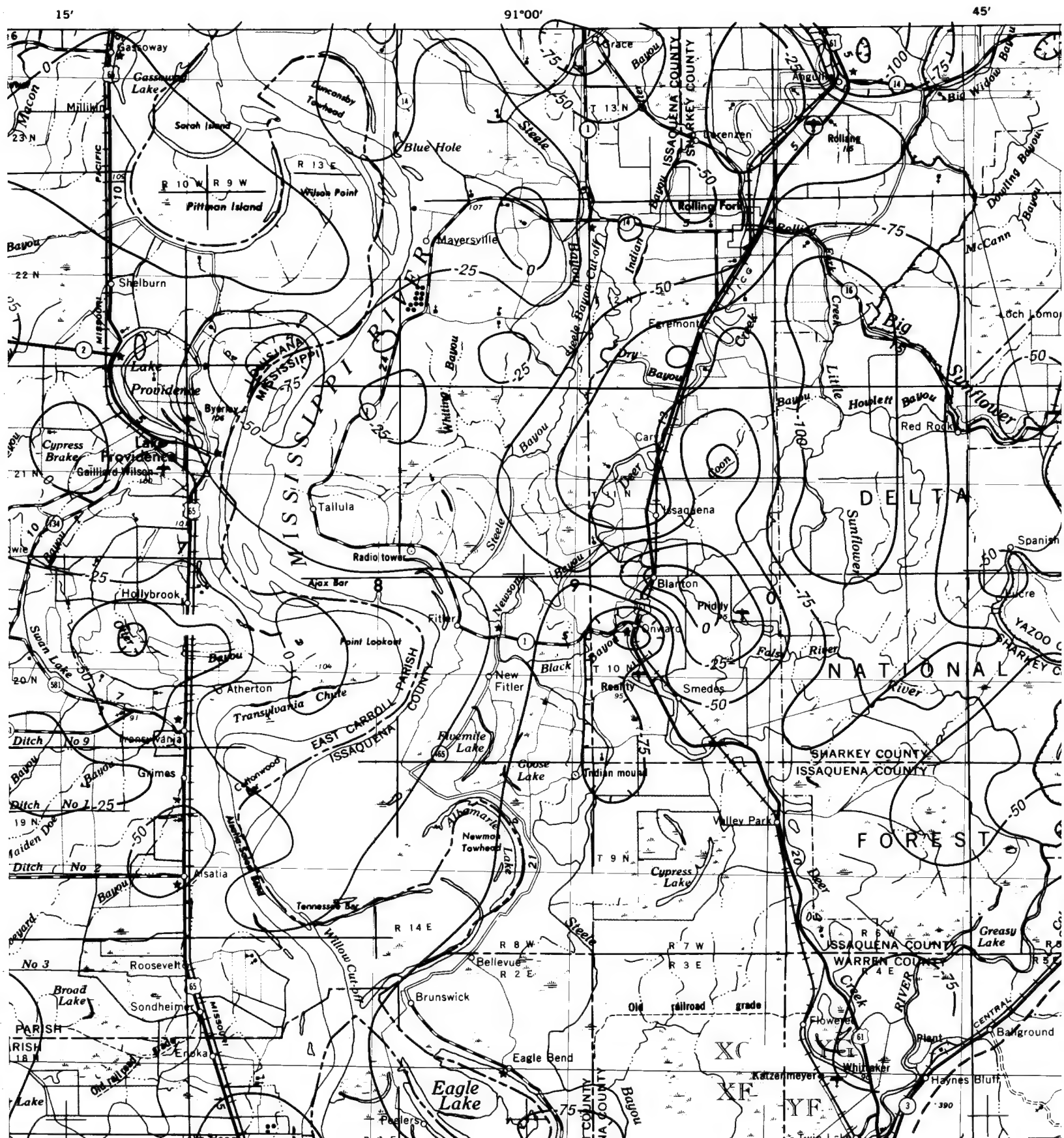
30'

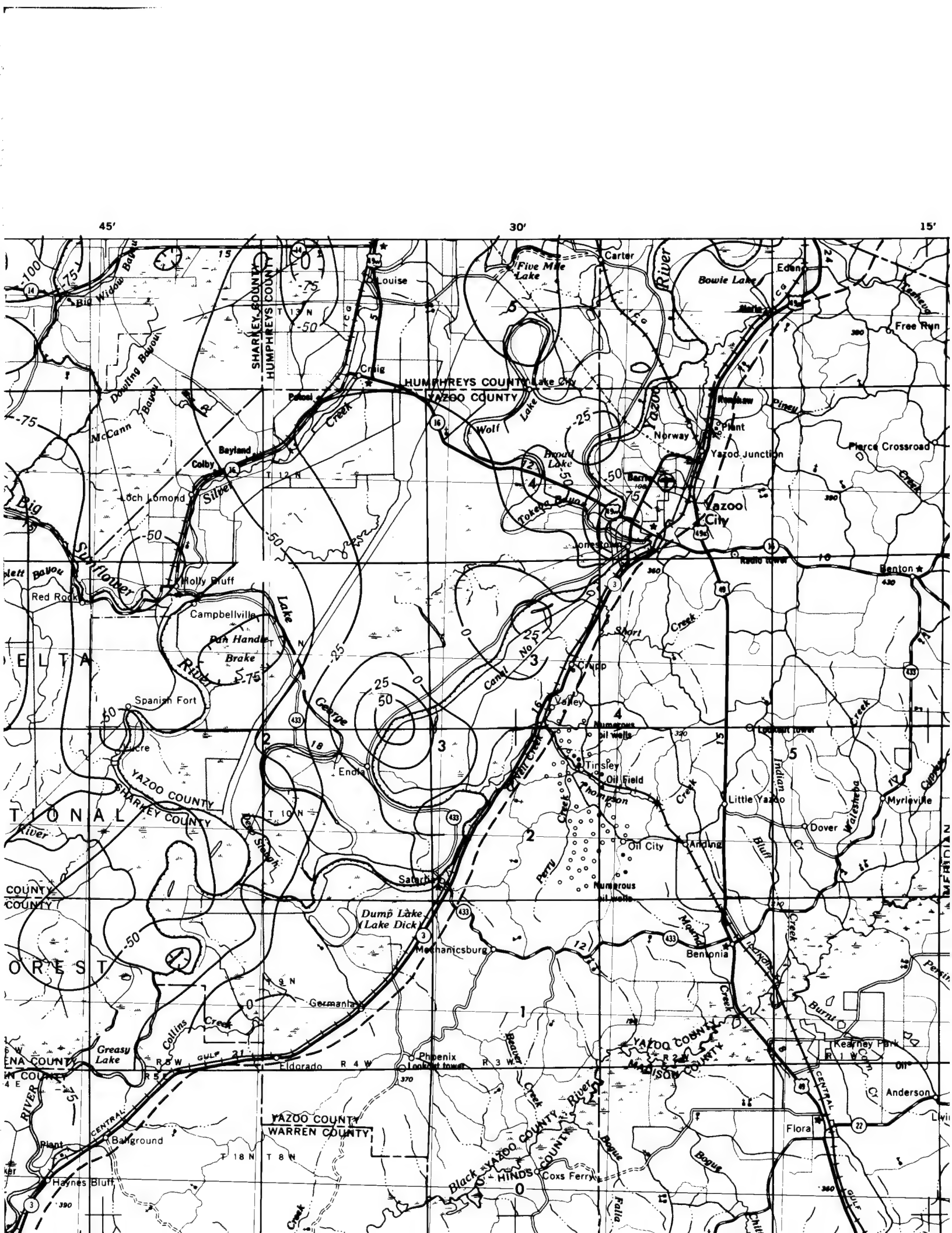
45'

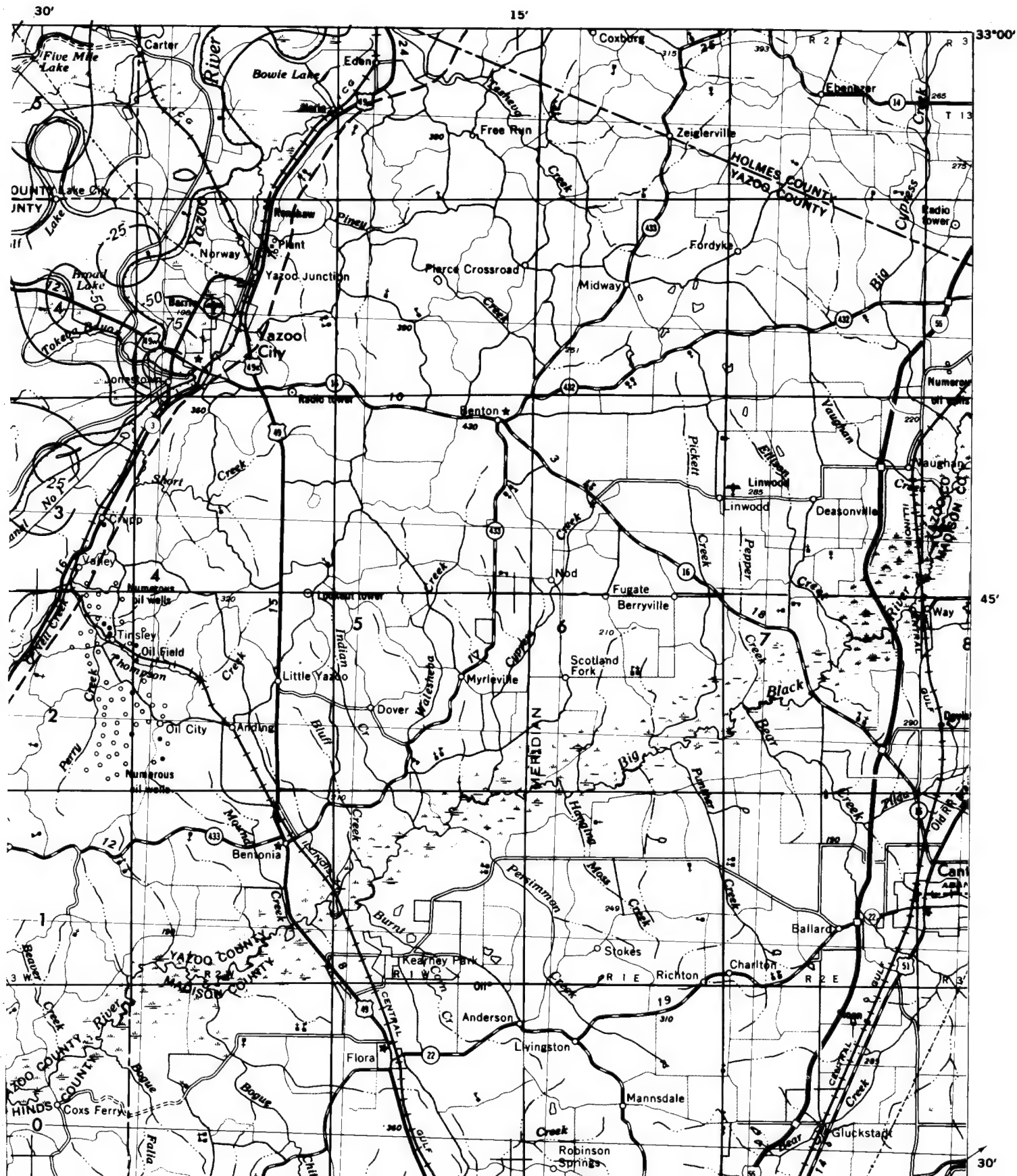
30'

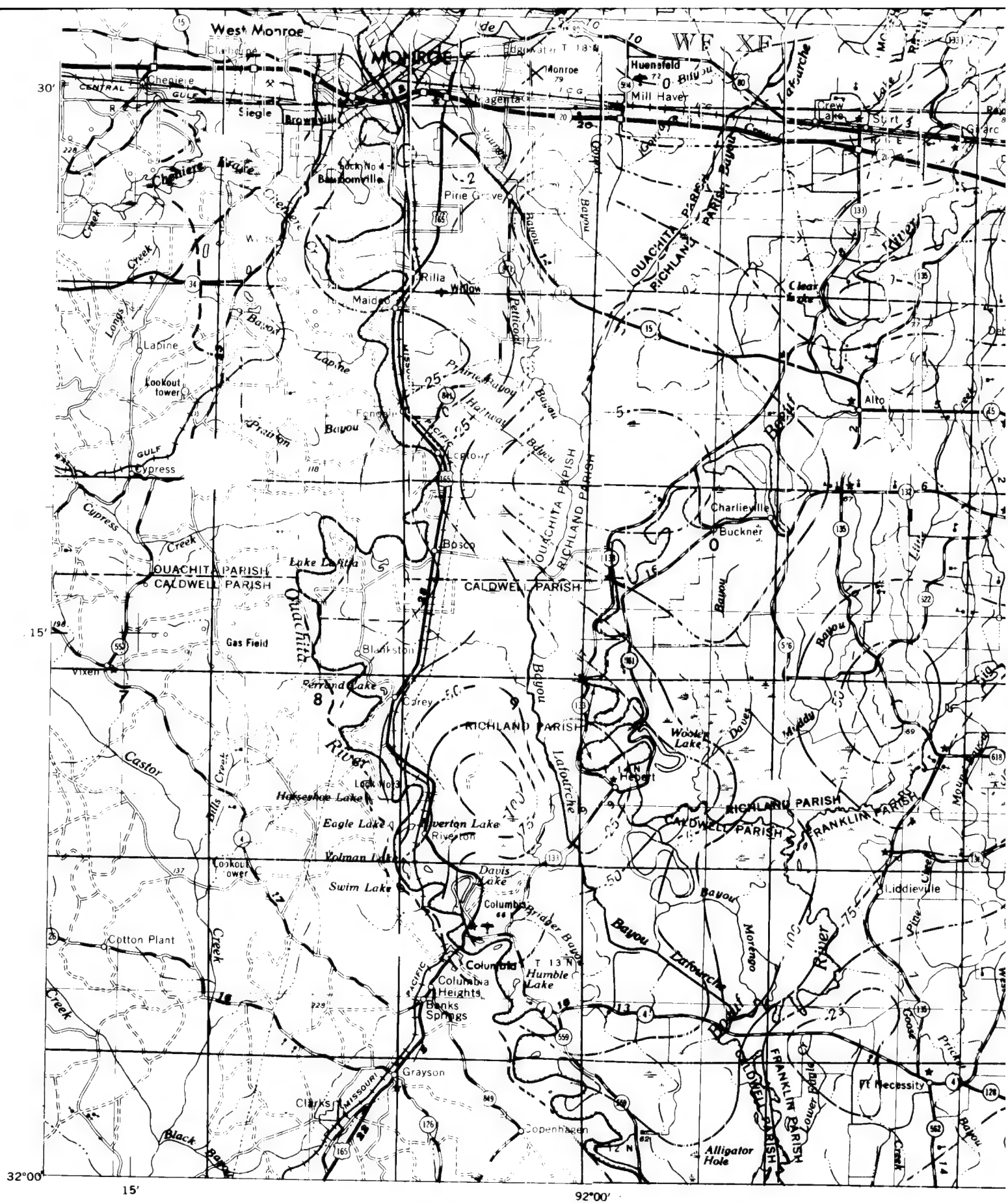
15'

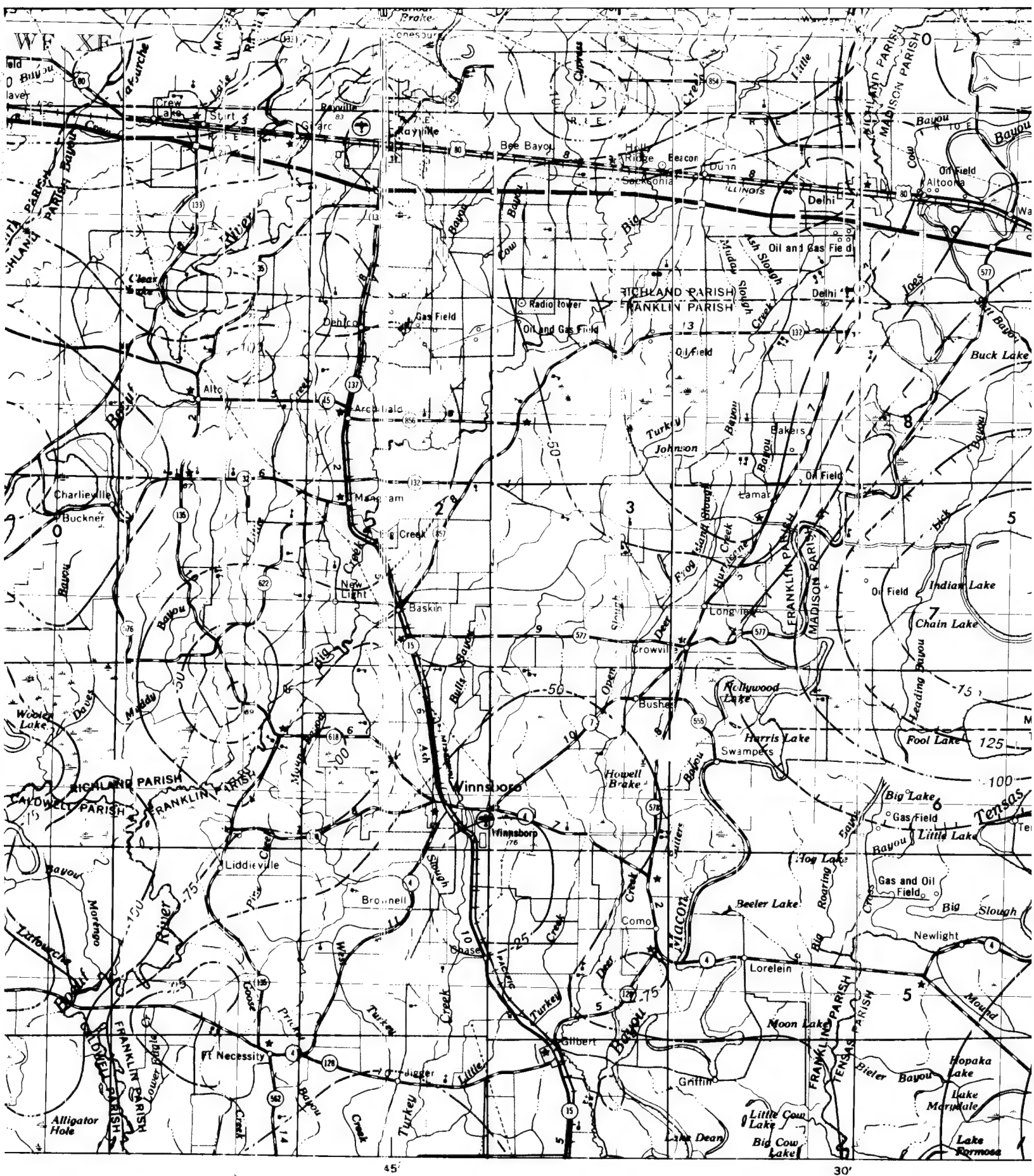


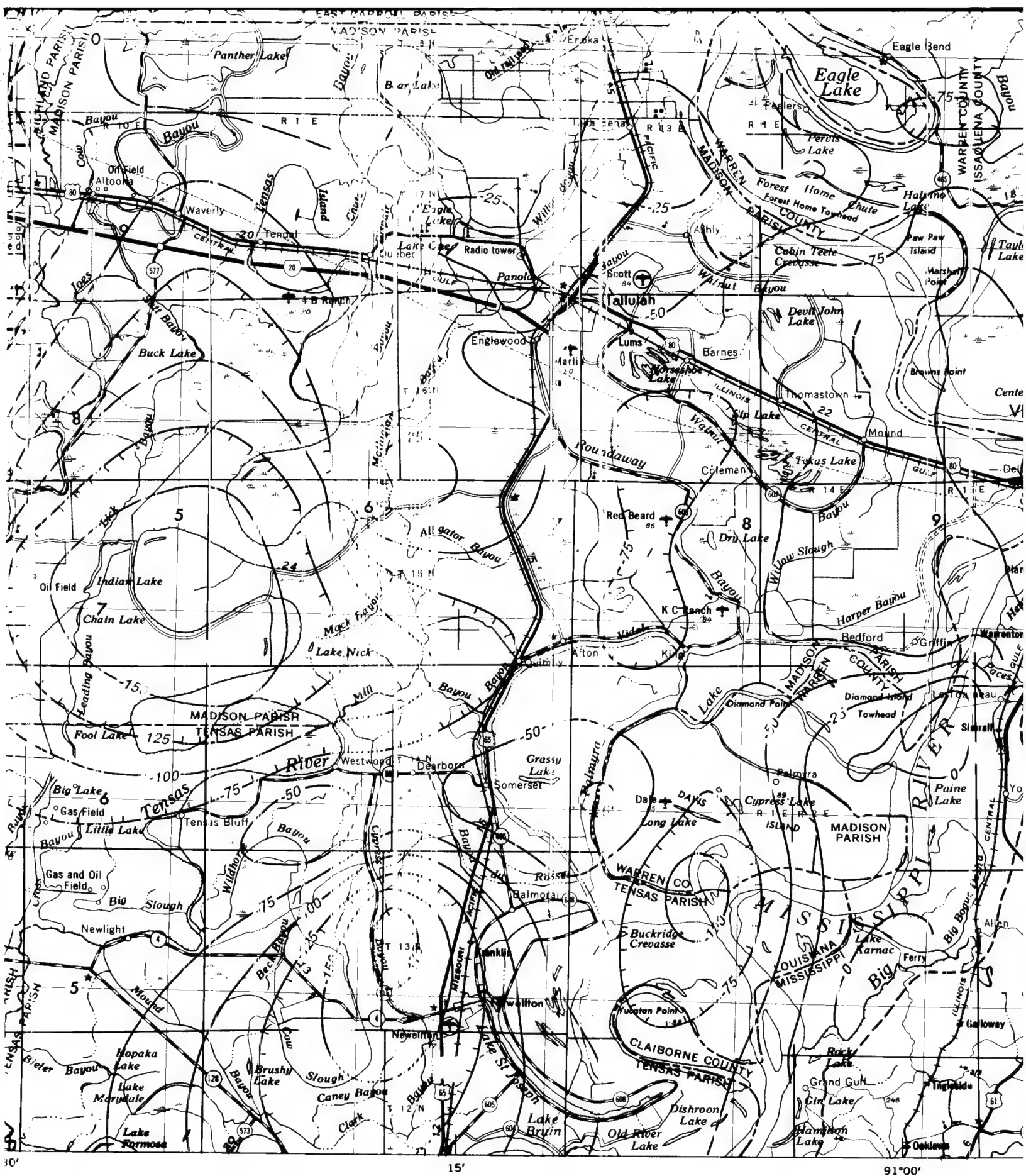




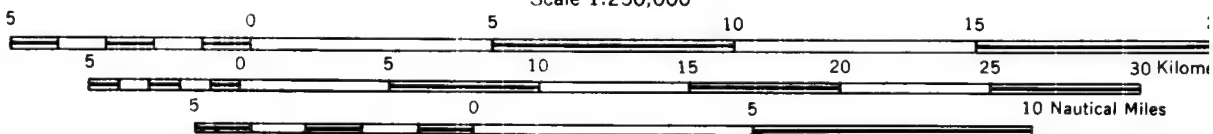


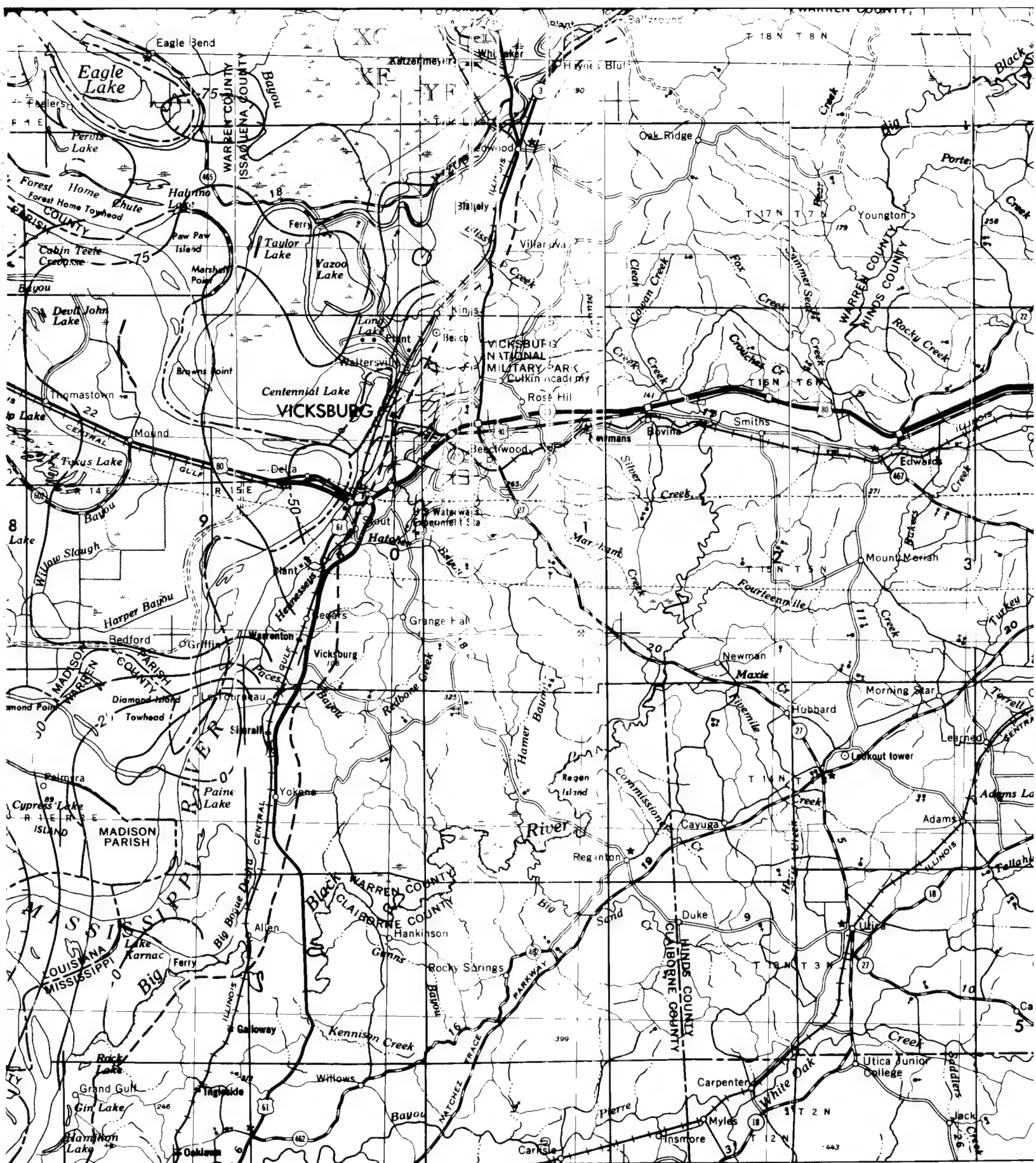






Scale 1:250,000





91°00'

45'

15

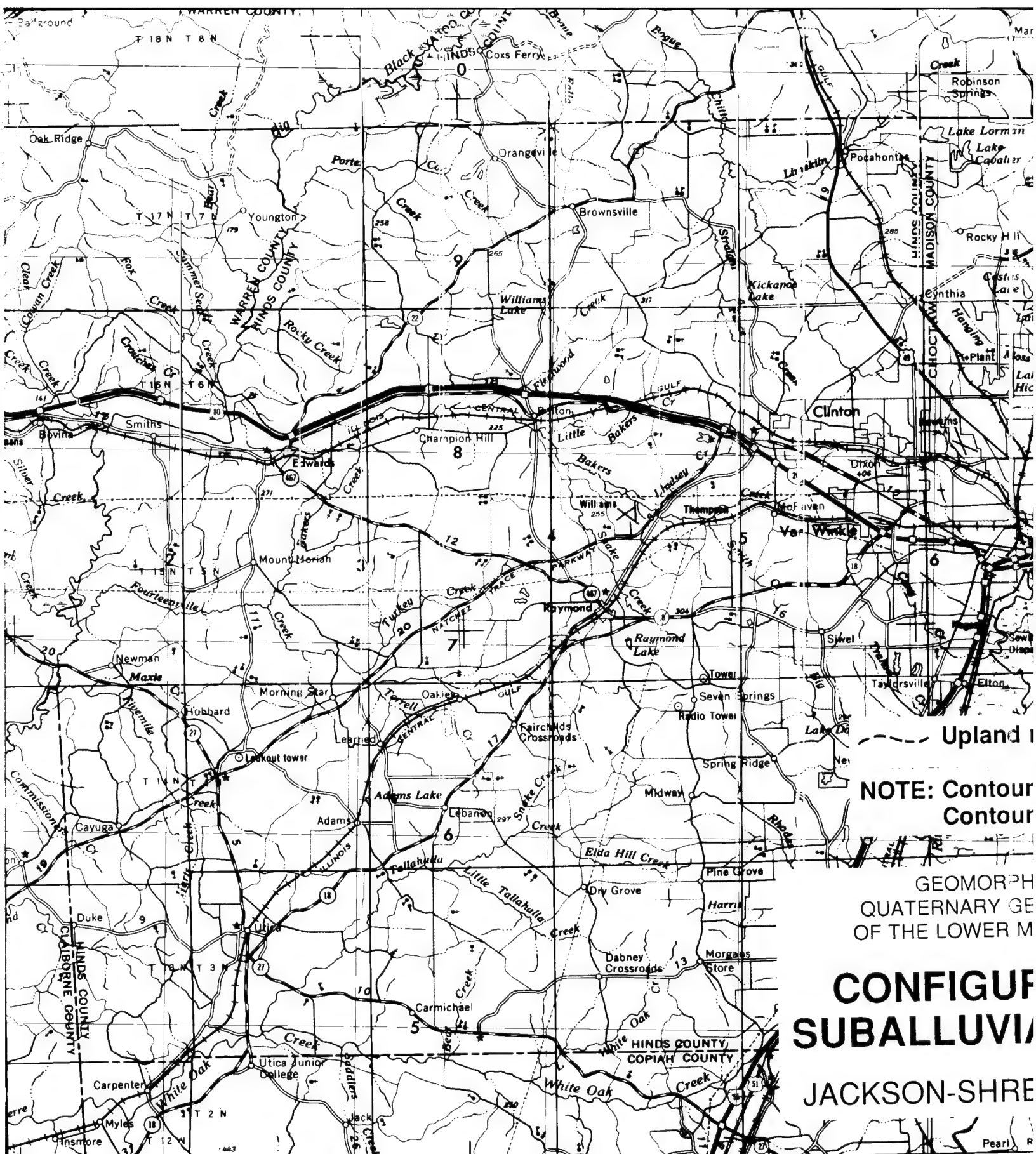
20 Statute Miles

20

25

30 Kilometres

10 Nautical Miles



Upland

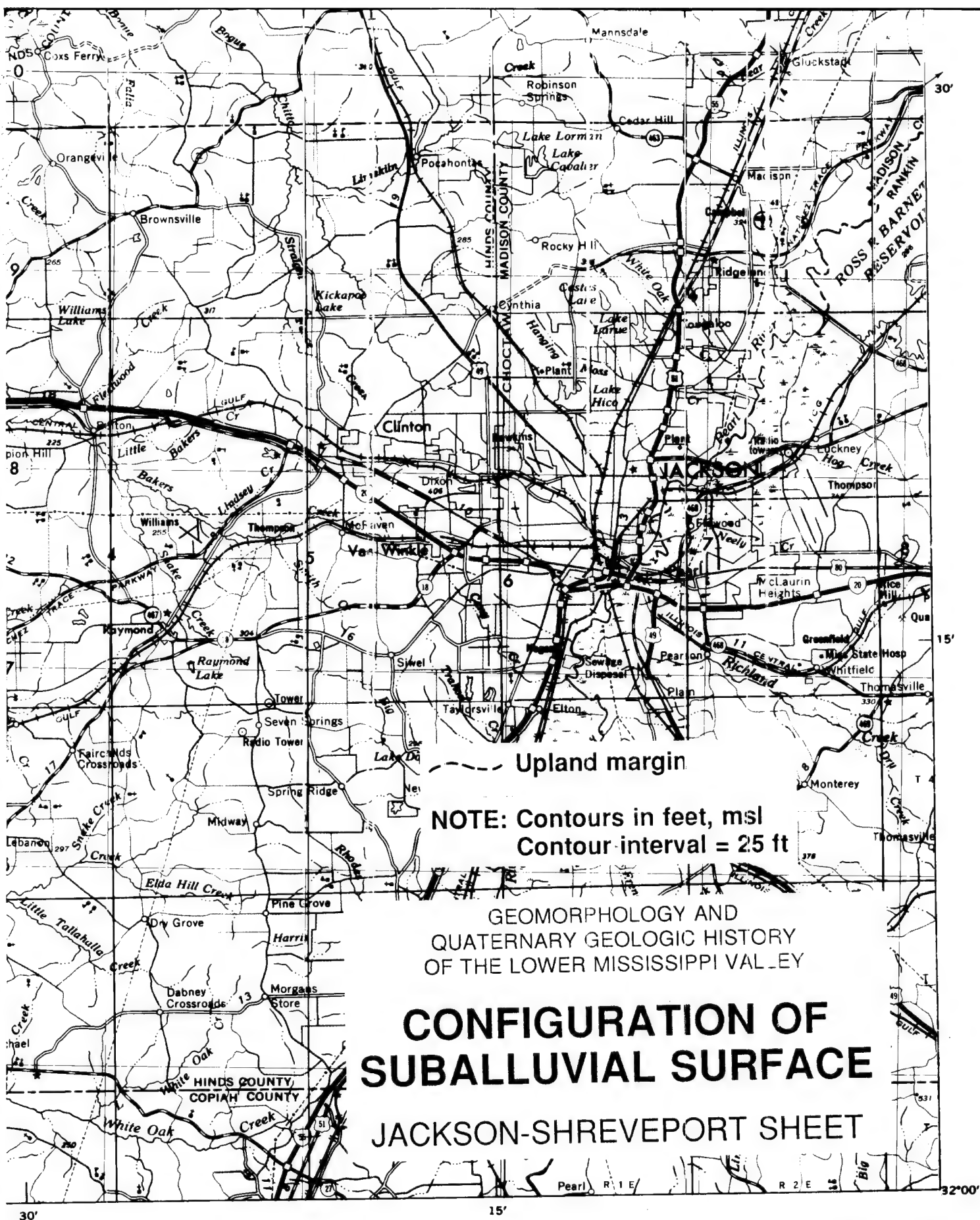
NOTE: Contour Interval 100 Feet

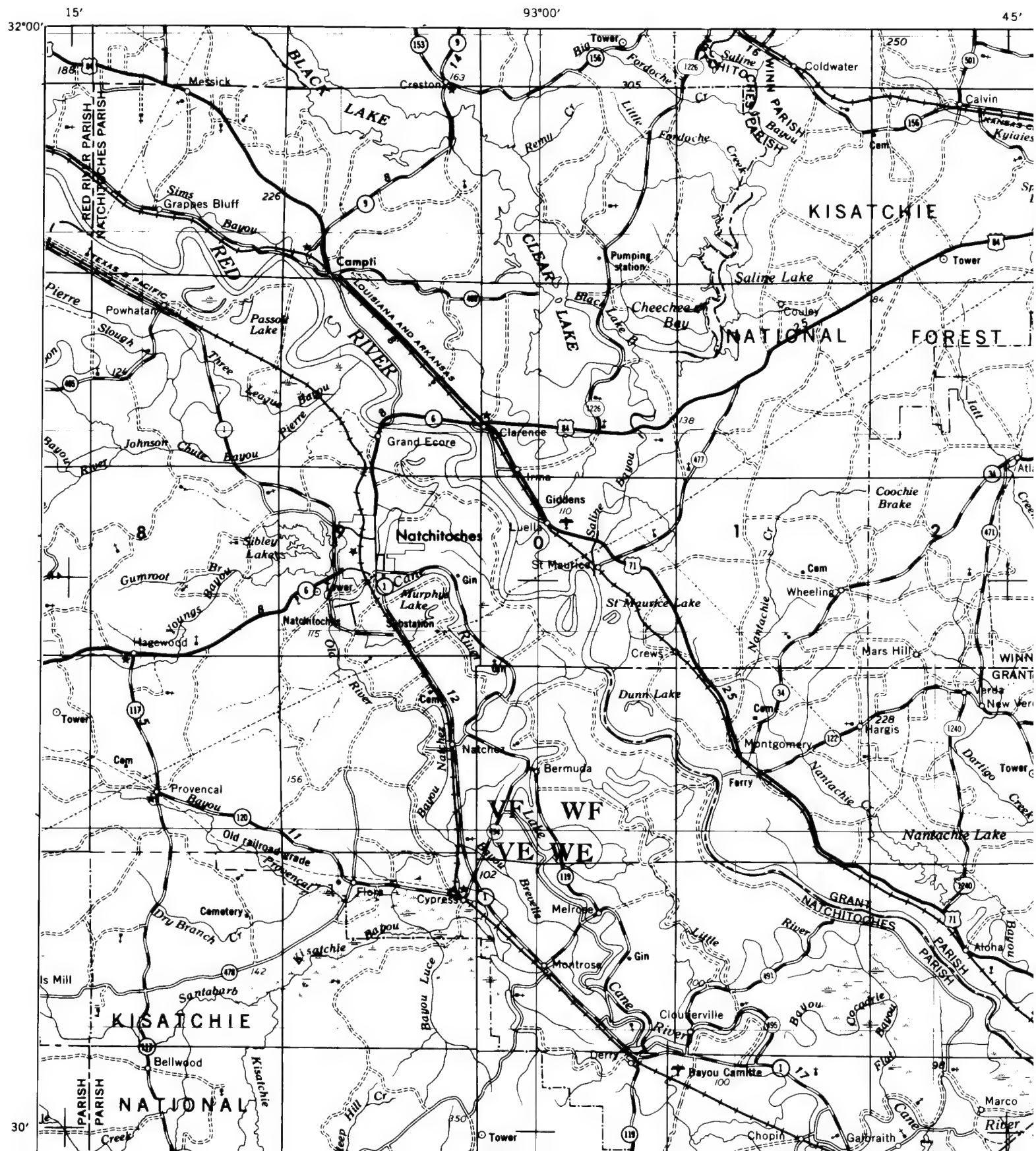
GEOMORPHIC QUATERNARY GEOLOGY OF THE LOWER MISSISSIPPI

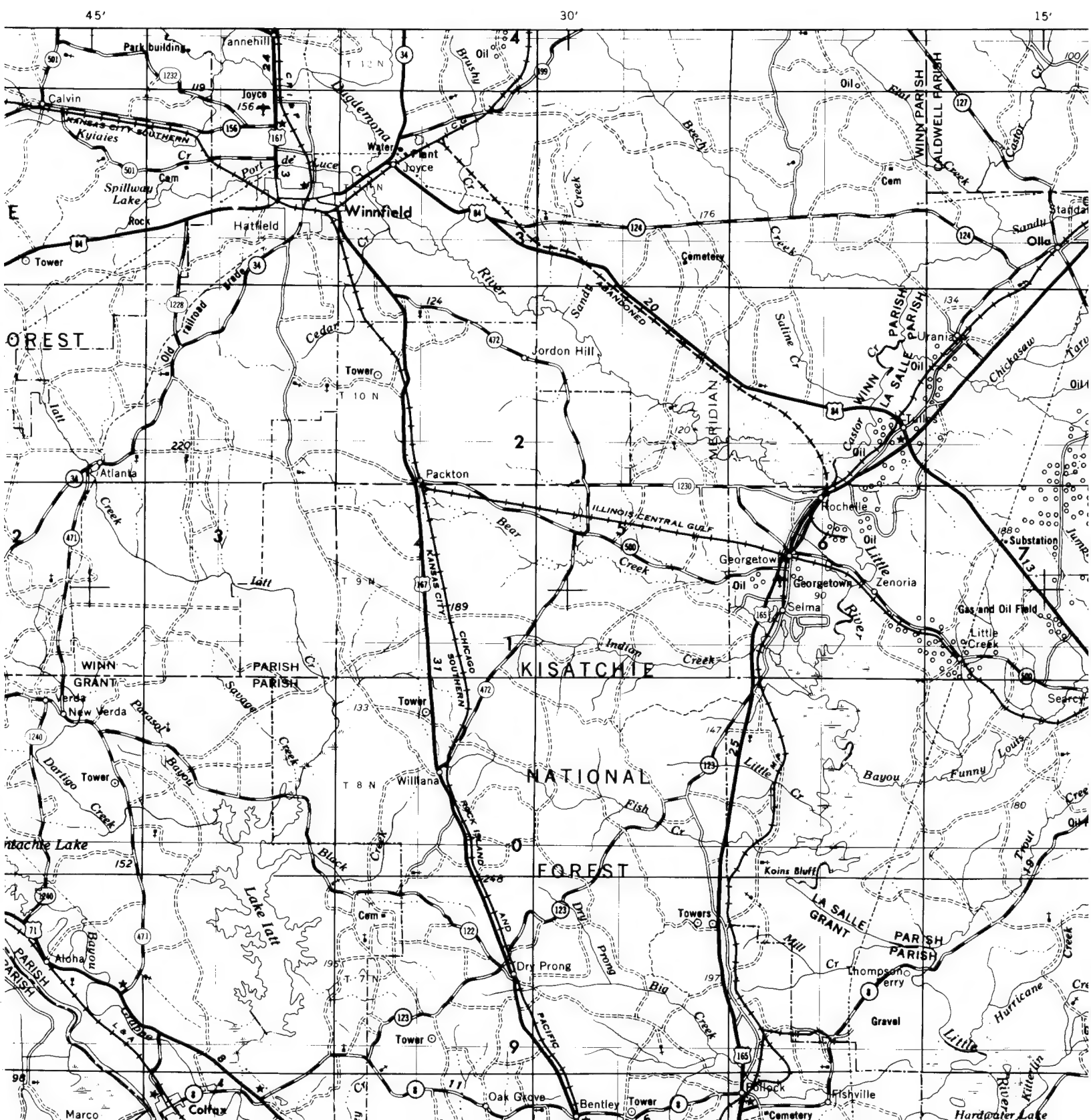
CONFIGURATION OF SUBALLUVIAL SURFACES

JACKSON-SHREVEPORT

45' 30' 15' Pearl River



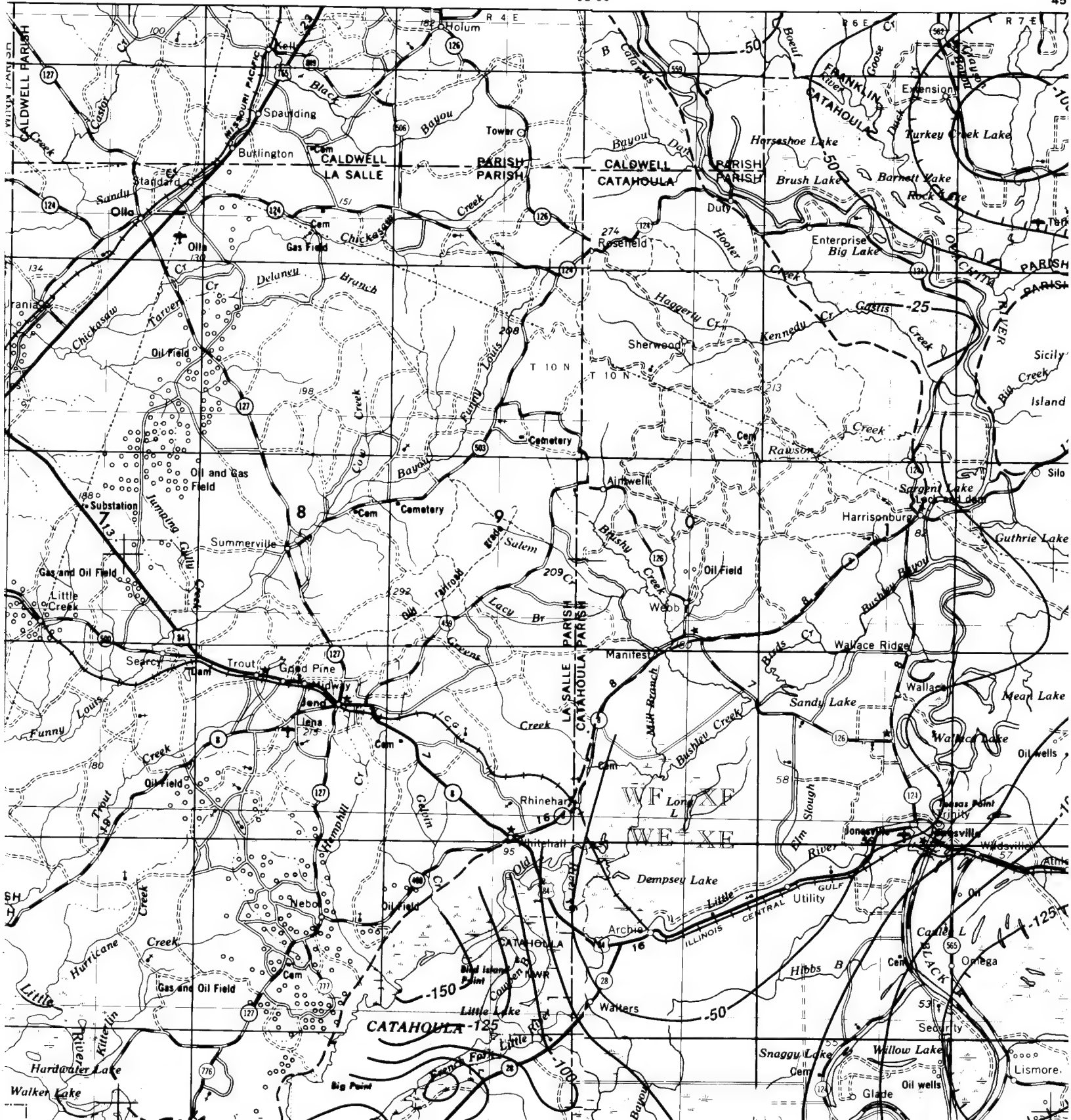




15'

92°00'

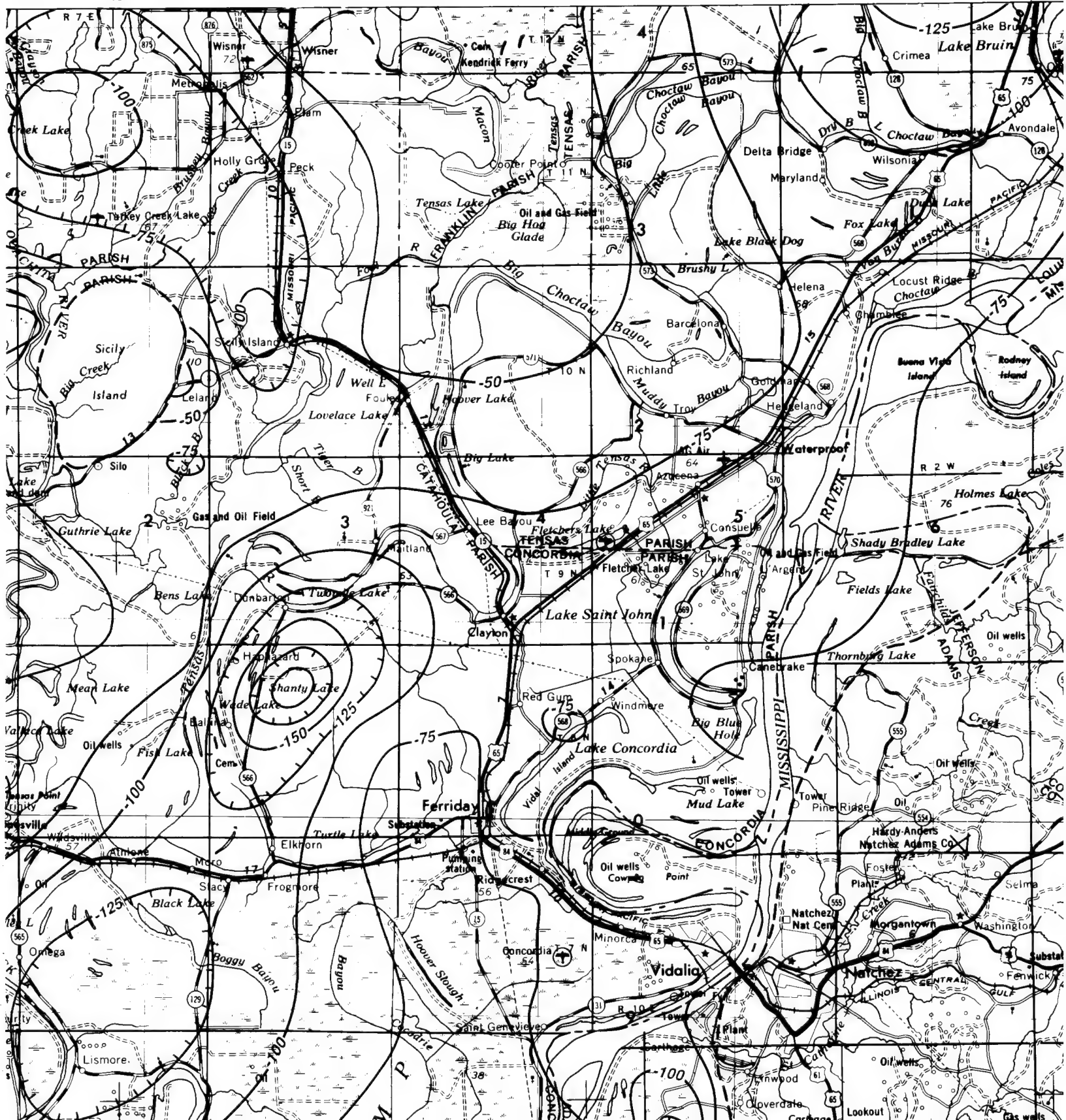
45'



45'

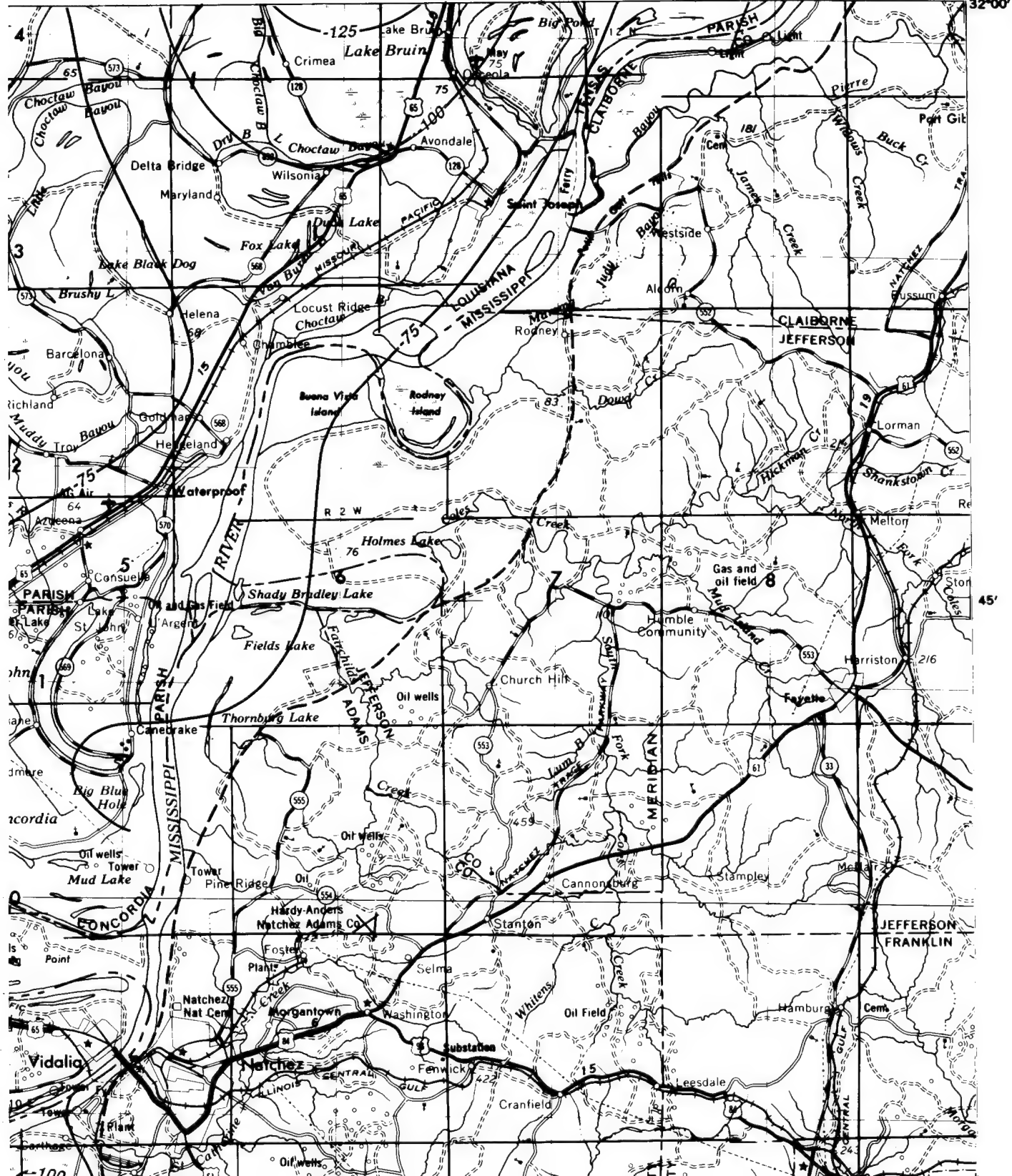
30'

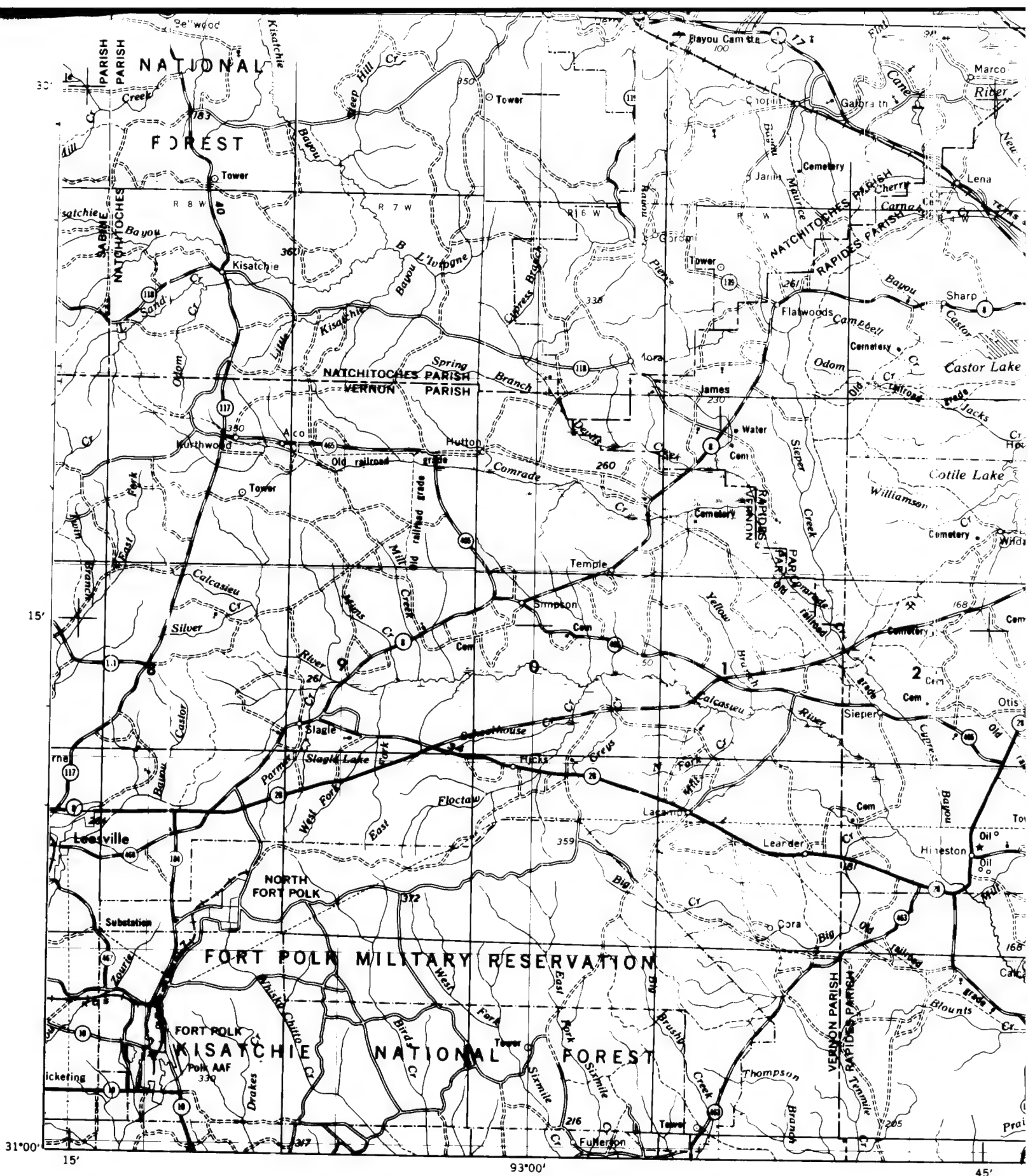
15'

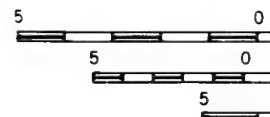
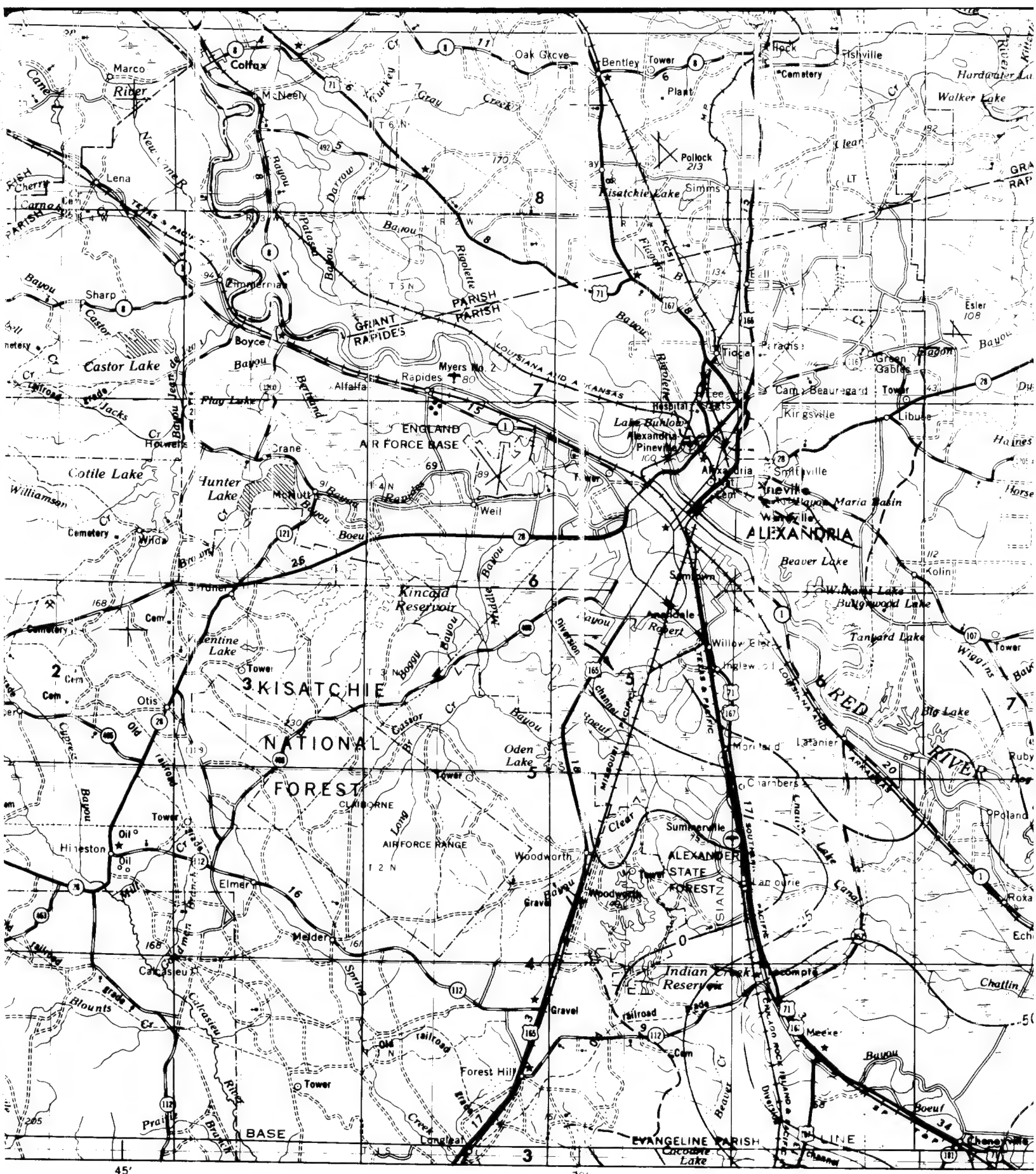


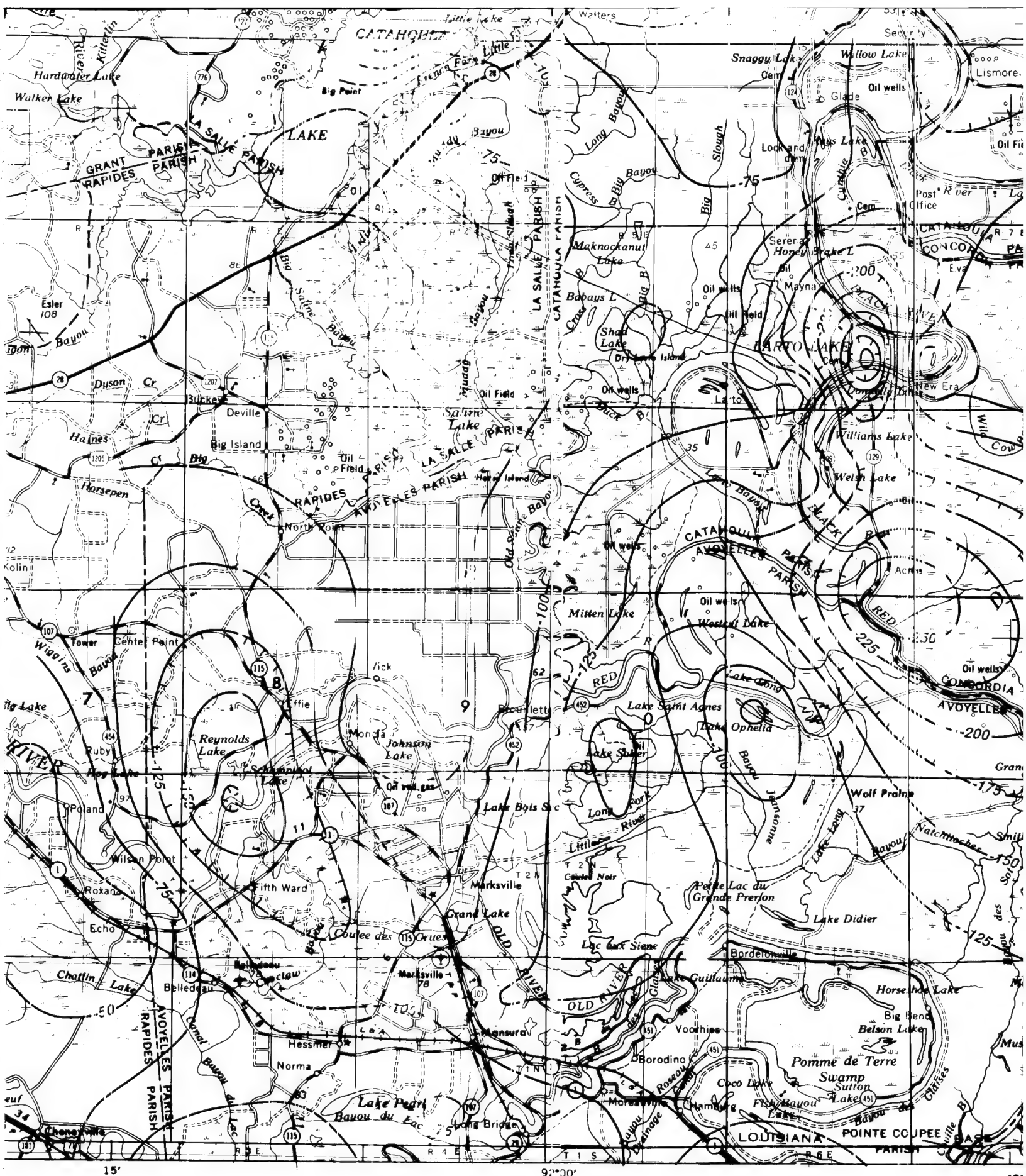
15'

91° 00'
32° 00'

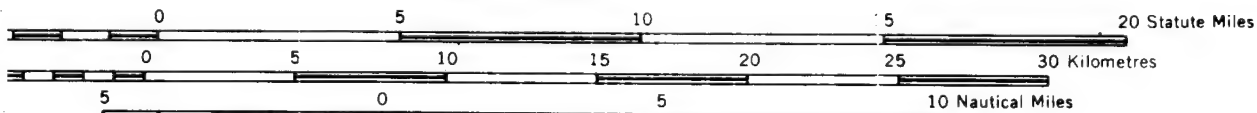


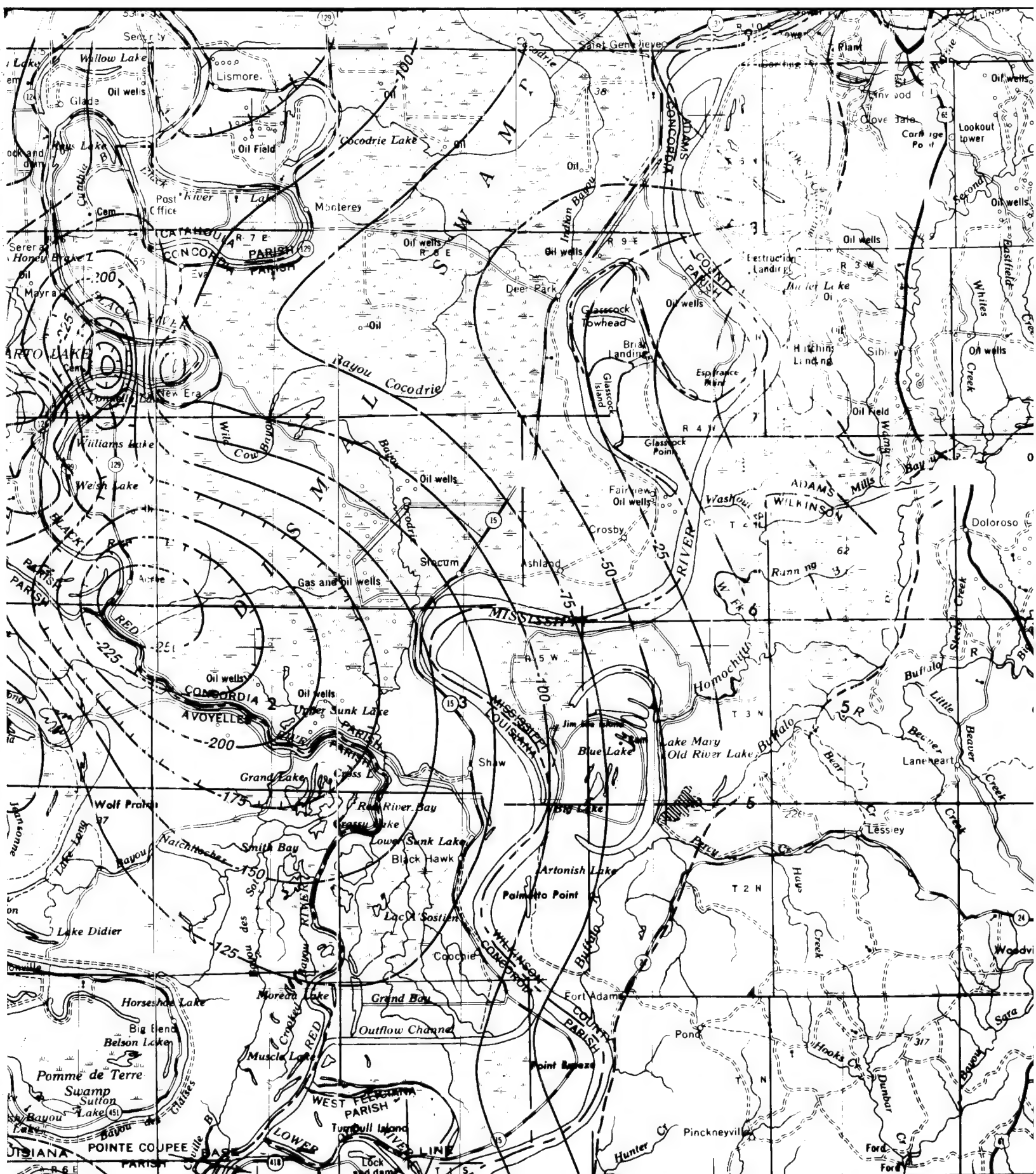






Scale 1:250,000

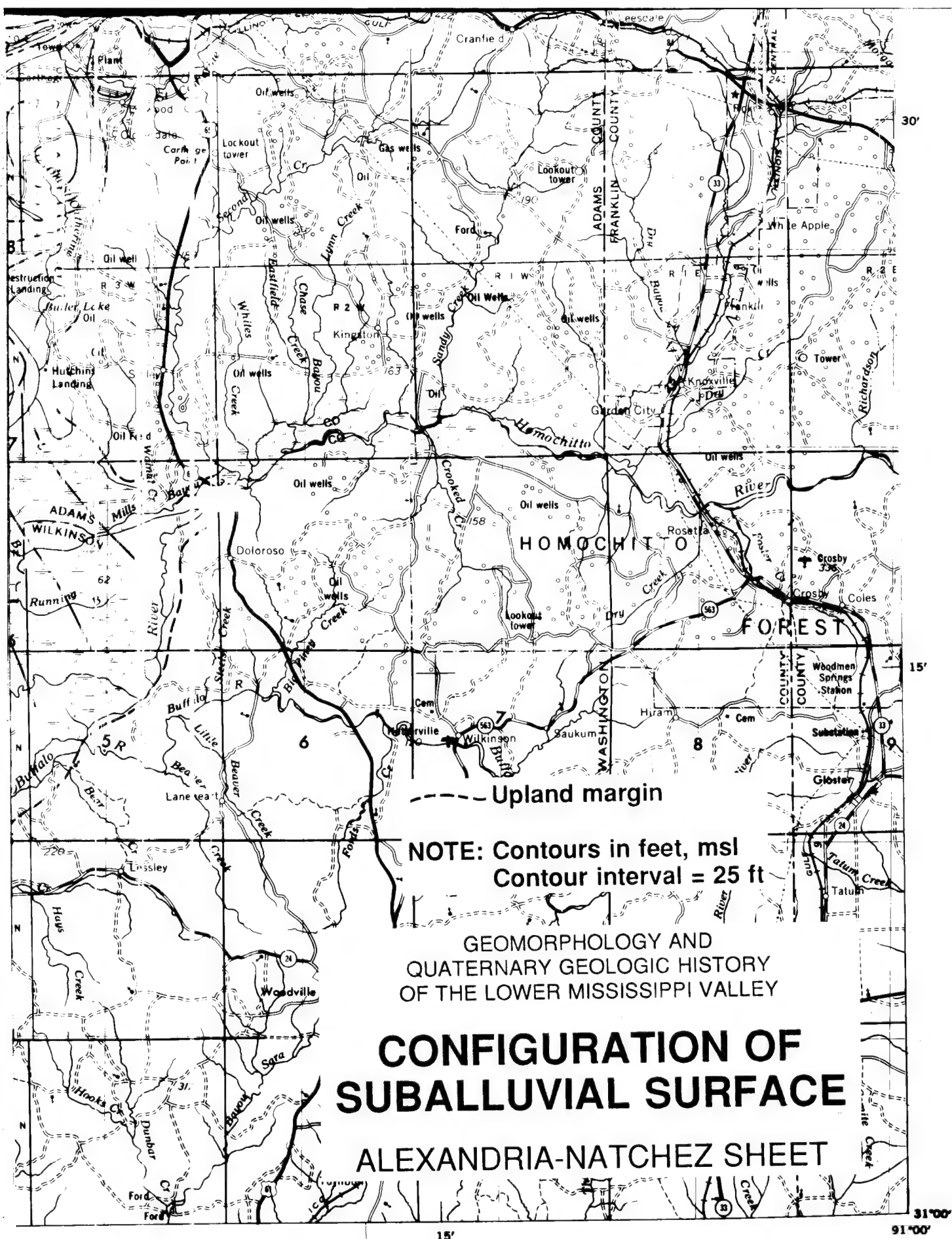




45'

30'

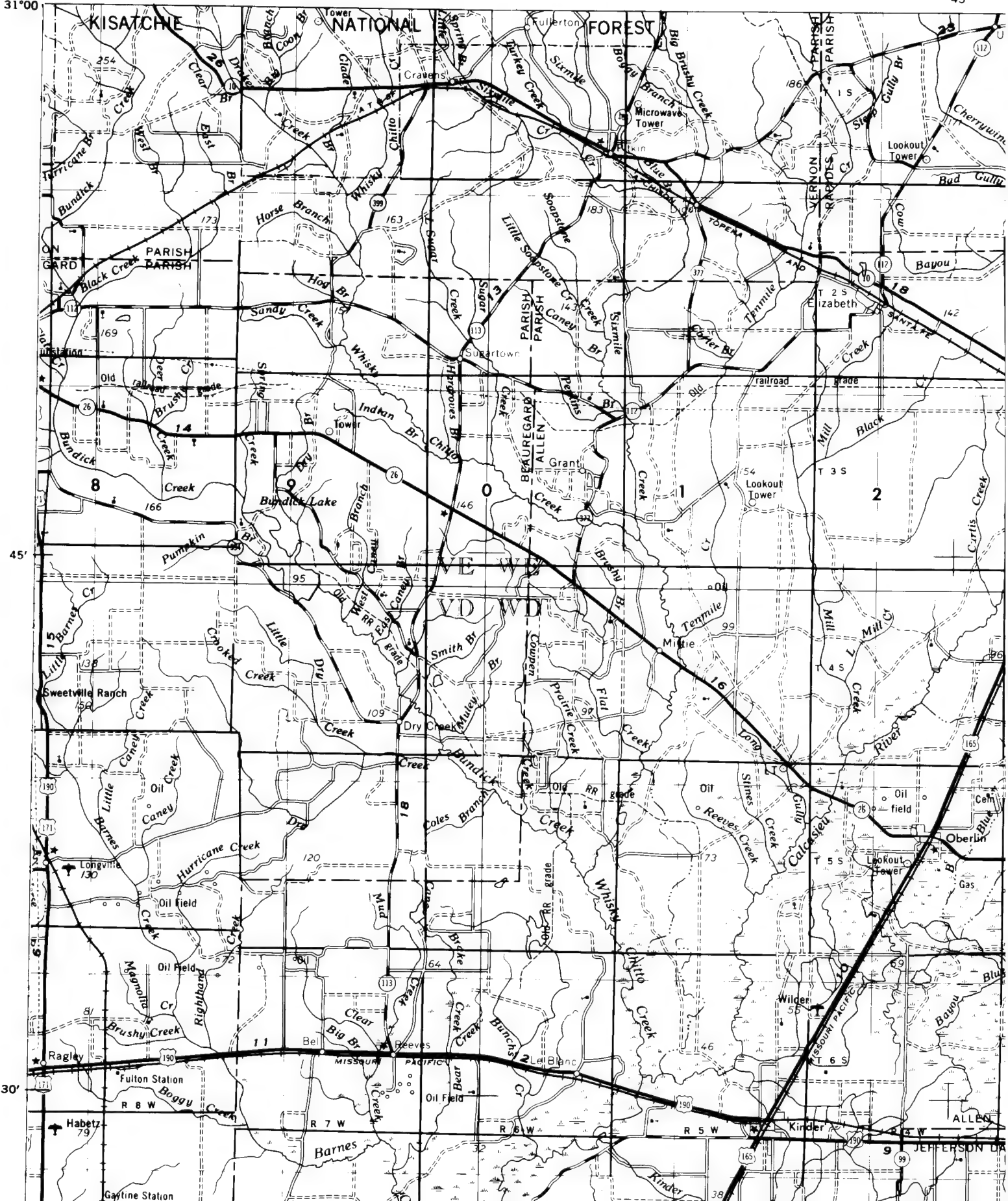
Miles

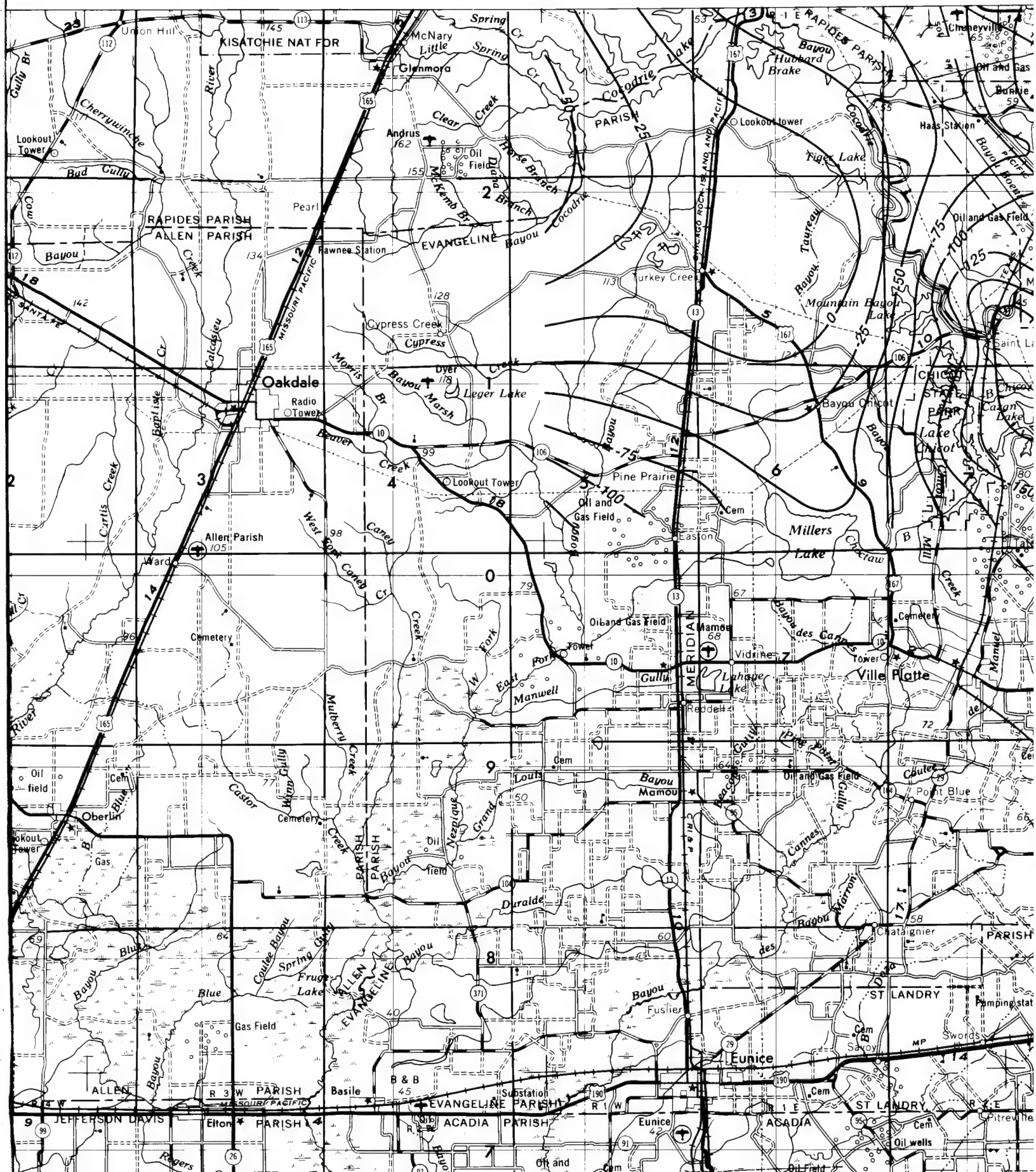


31°00'

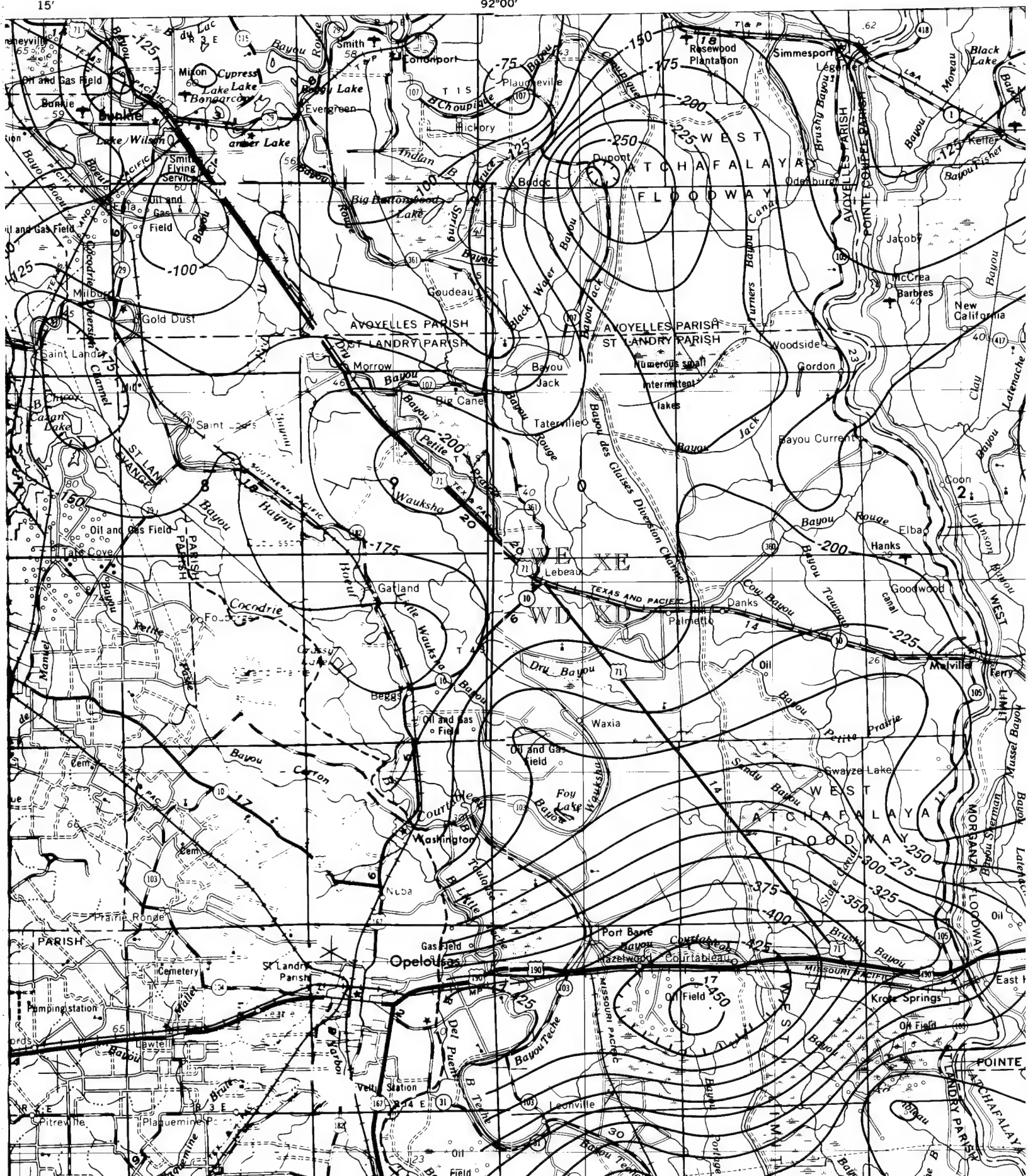
93°00'

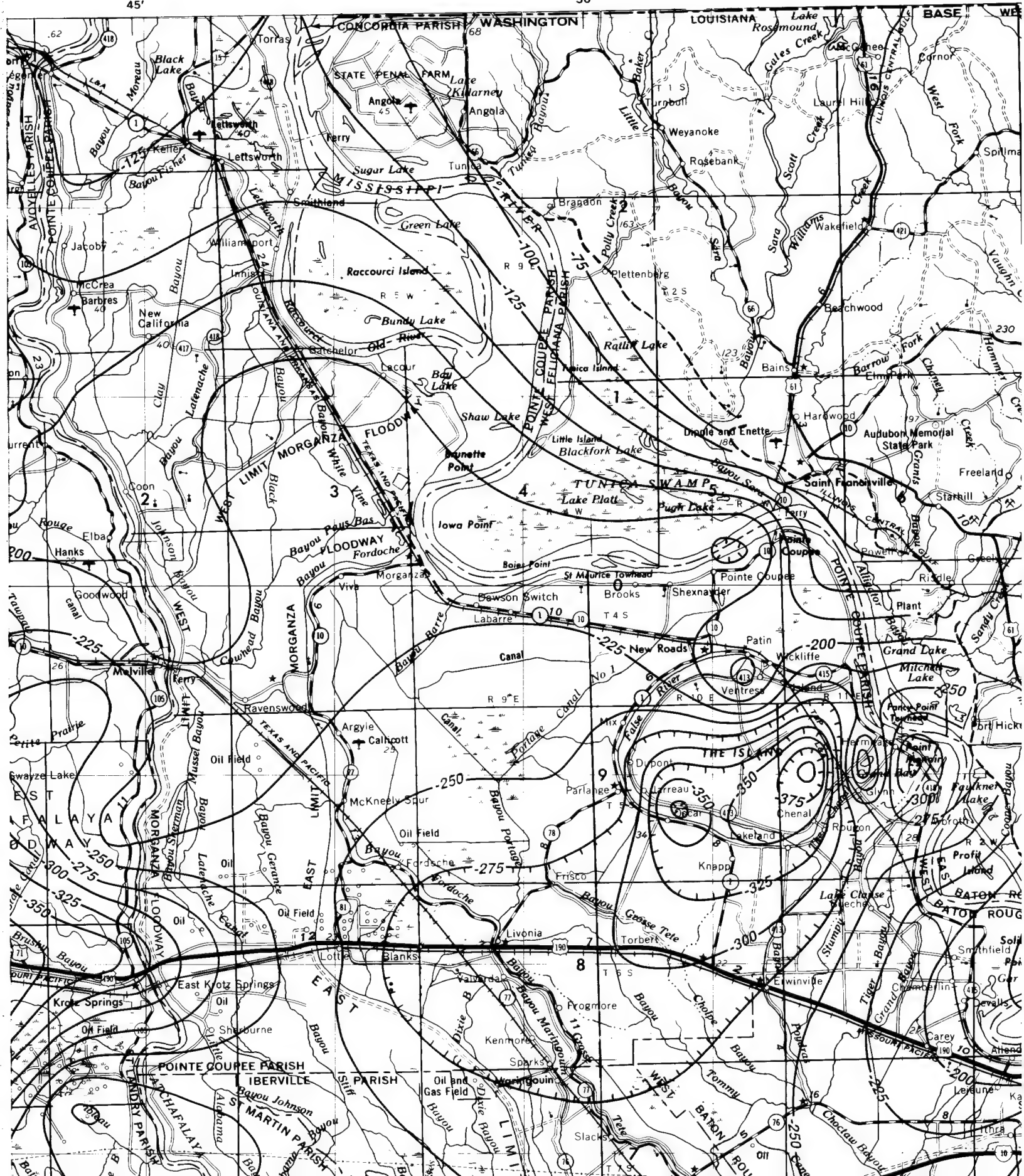
45'





45'

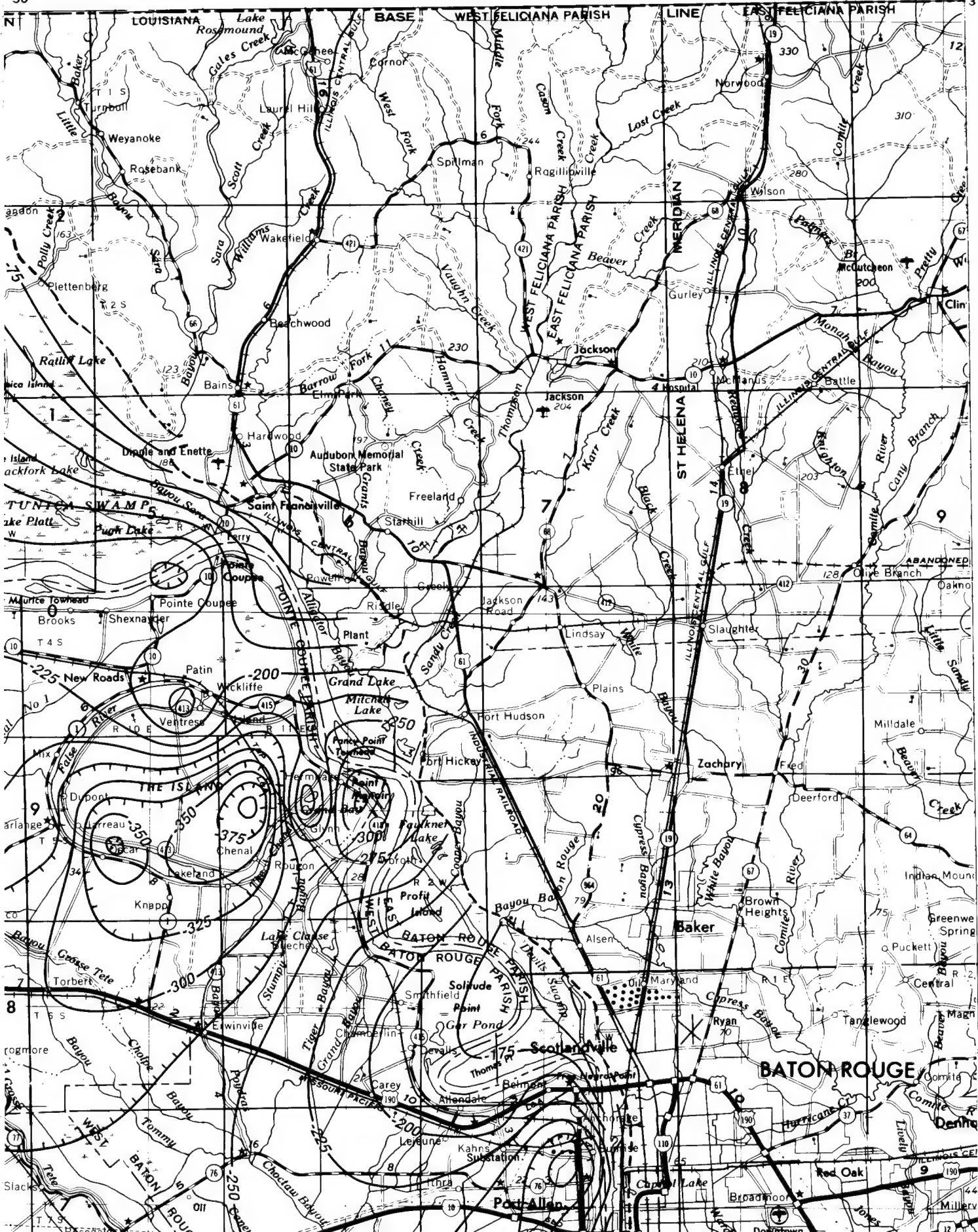




30'

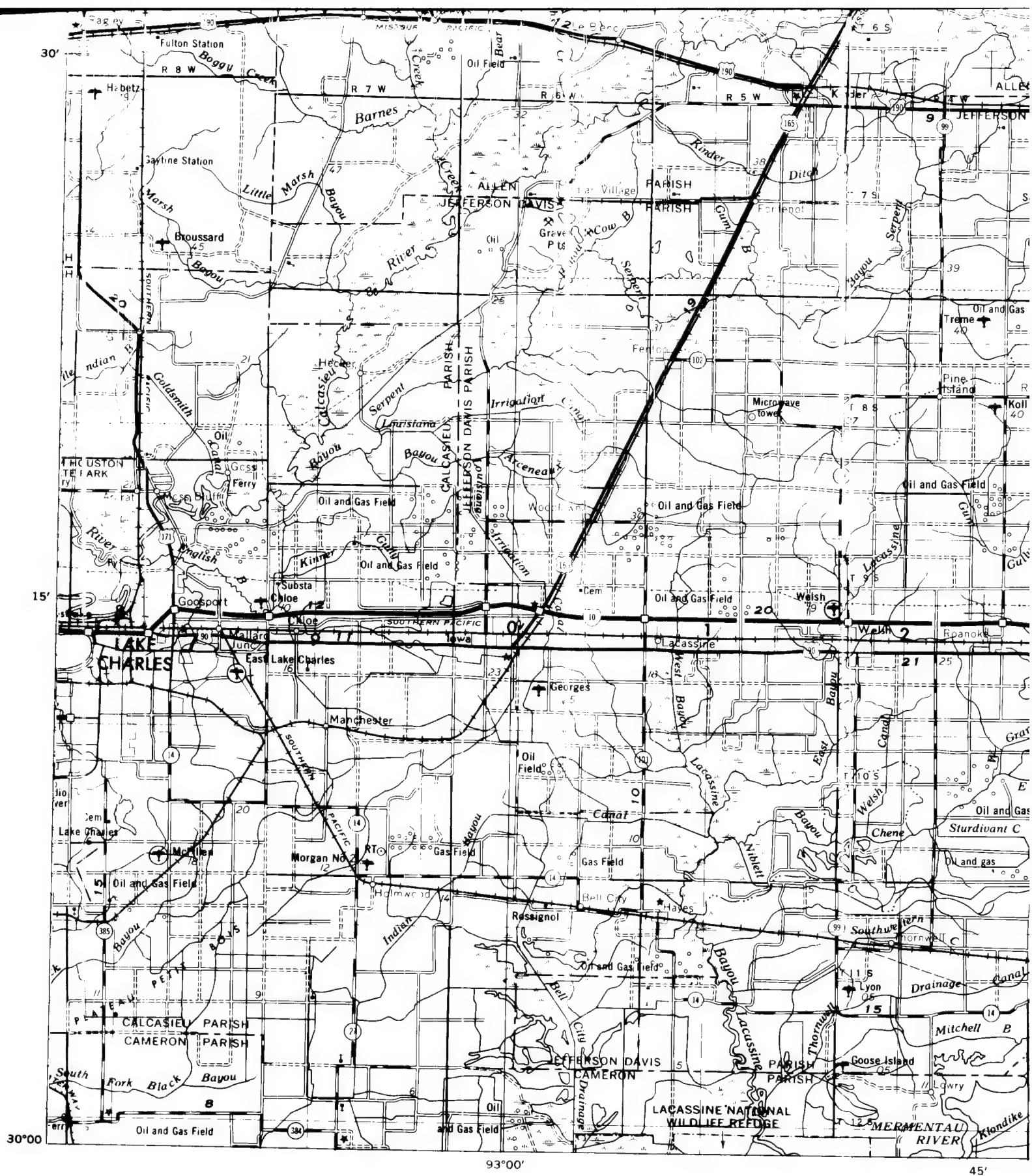
15'

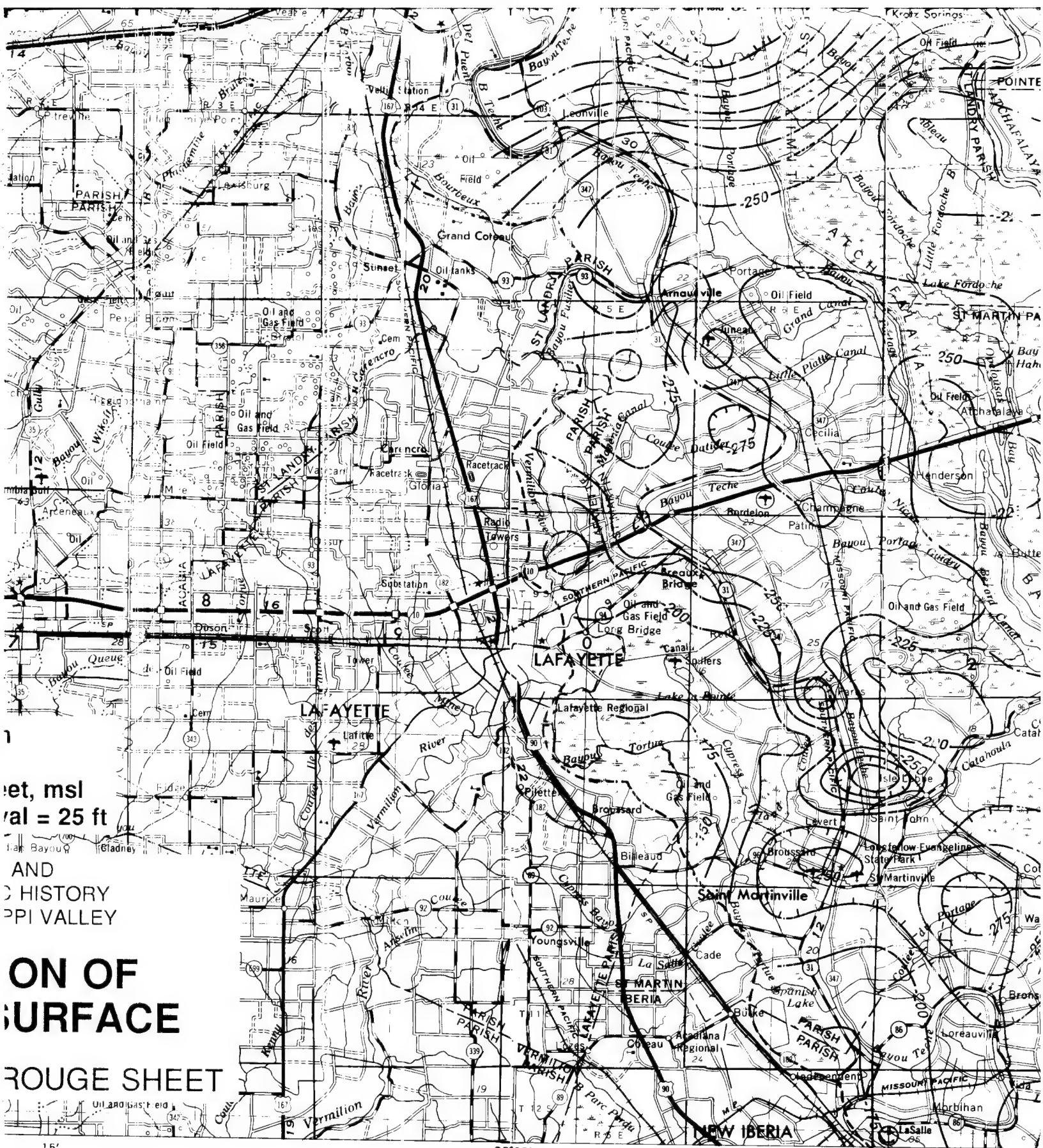
91°00'
31°00'



45'

30'



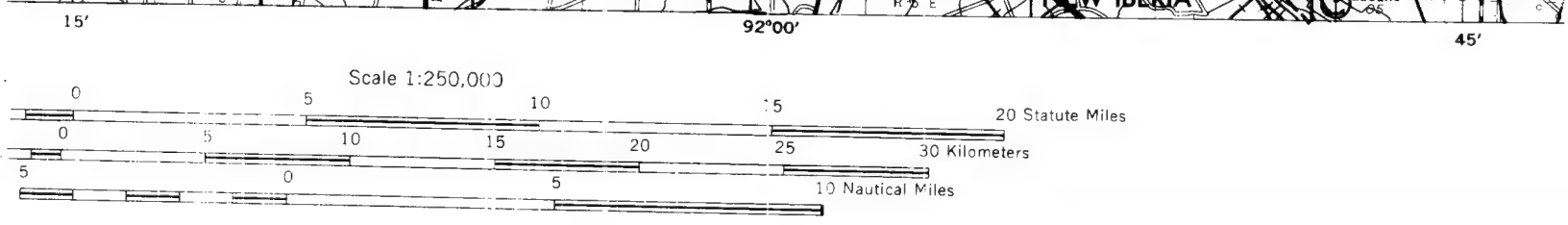


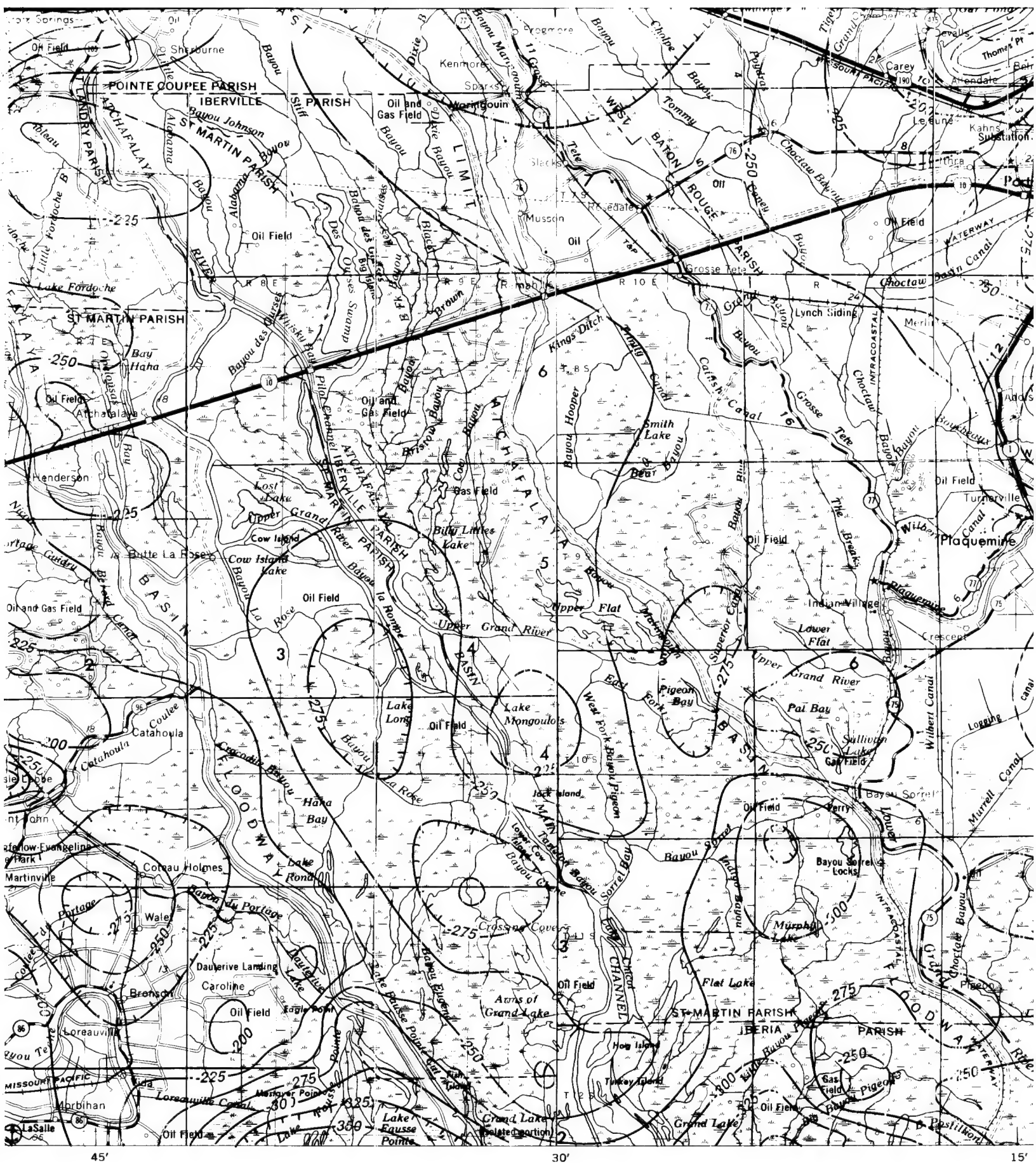
et, msl
al = 25 ft

AND
C HISTORY
PI VALLEY

ON OF SURFACE

ROUGE SHEET





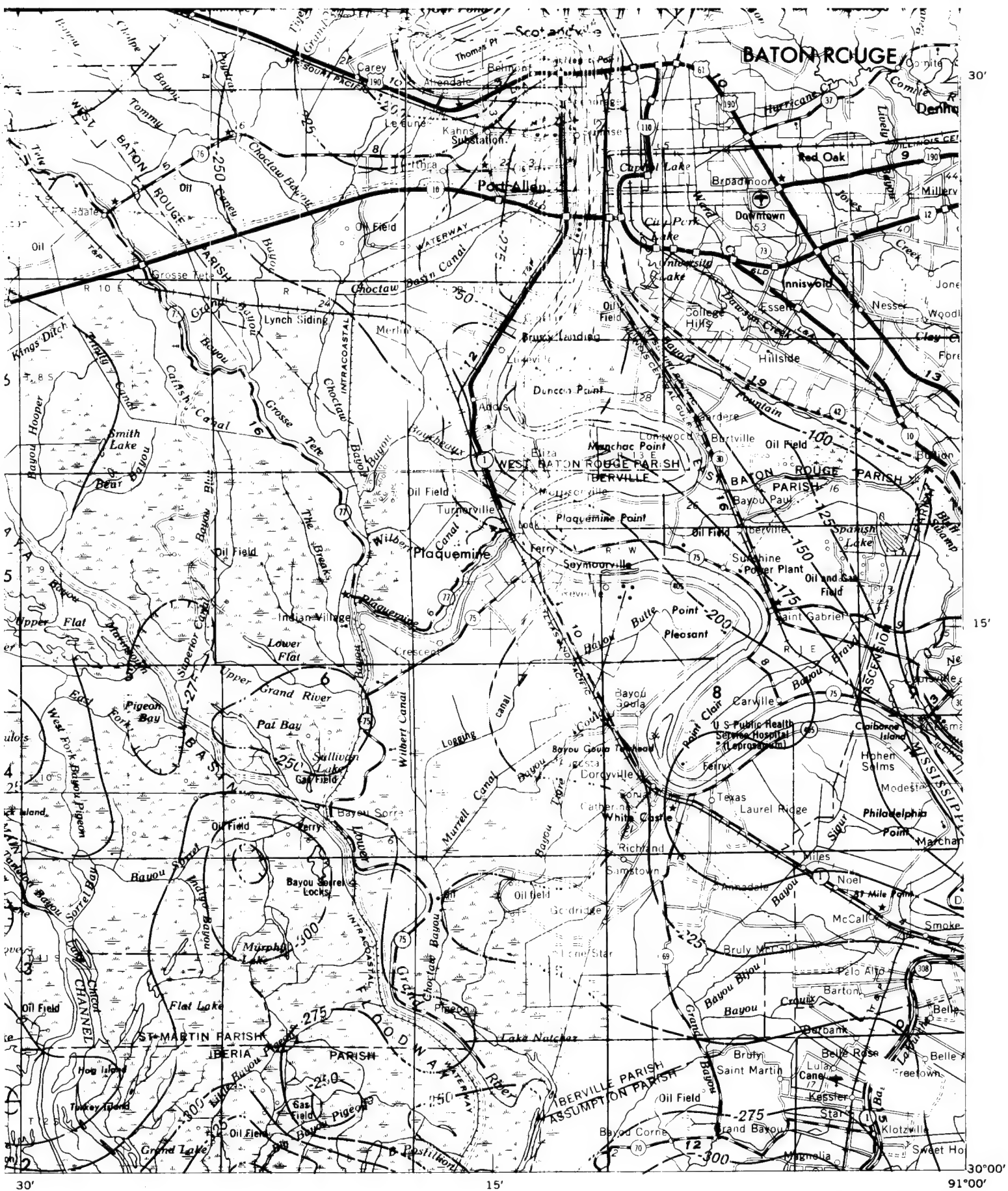


PLATE 24

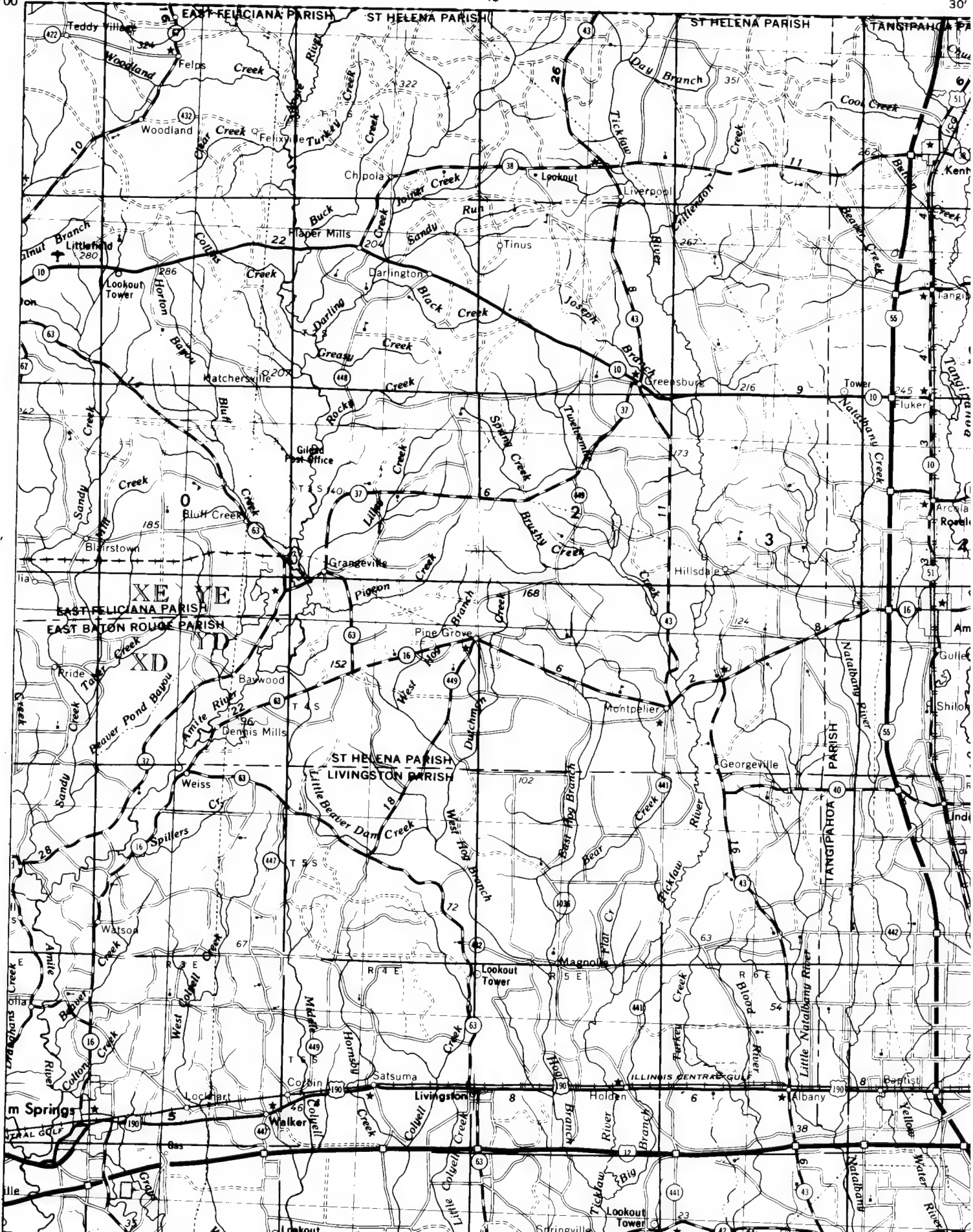
91°00'
31°00'

45'

30'

45'

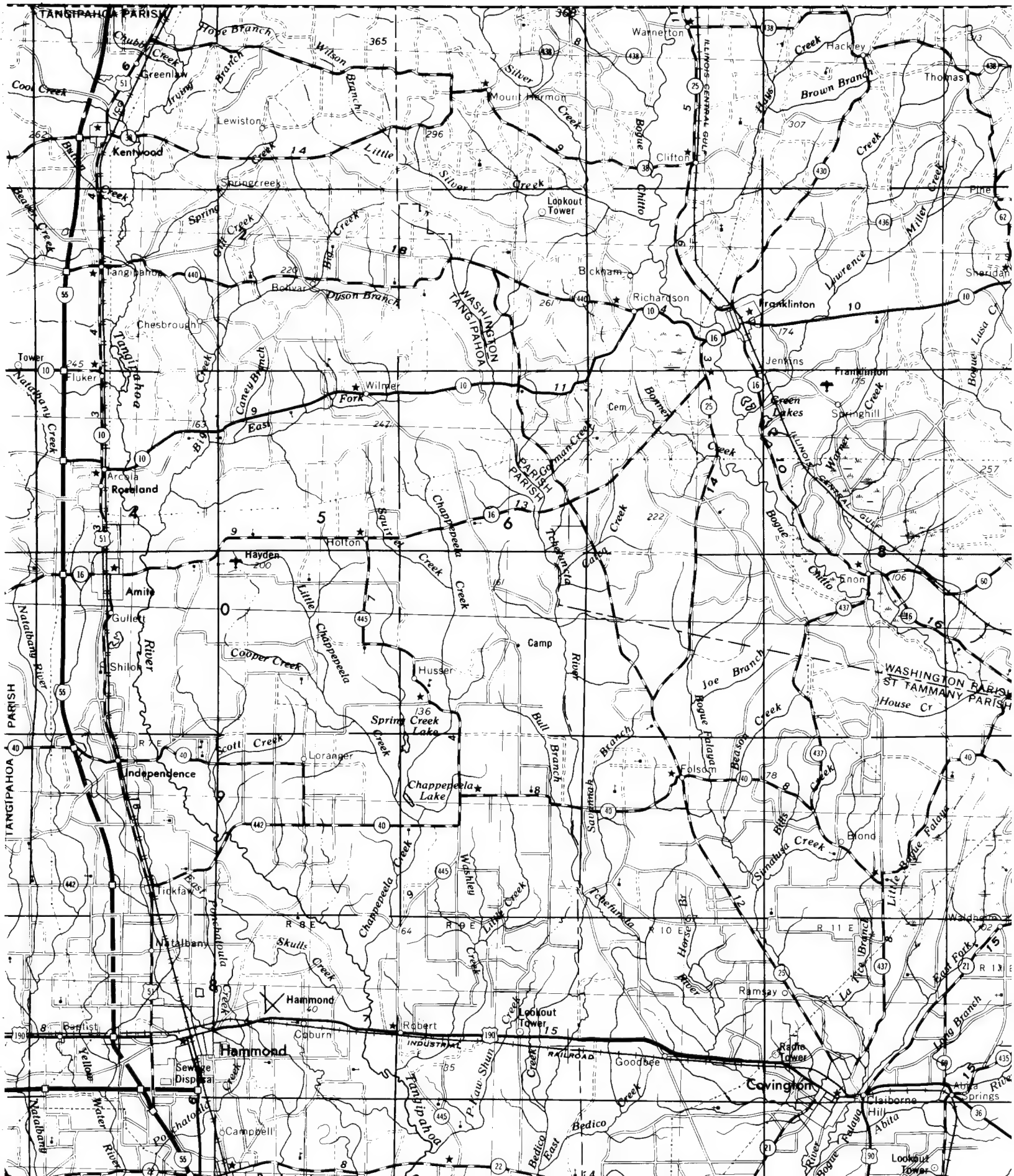
30'



30'

15'

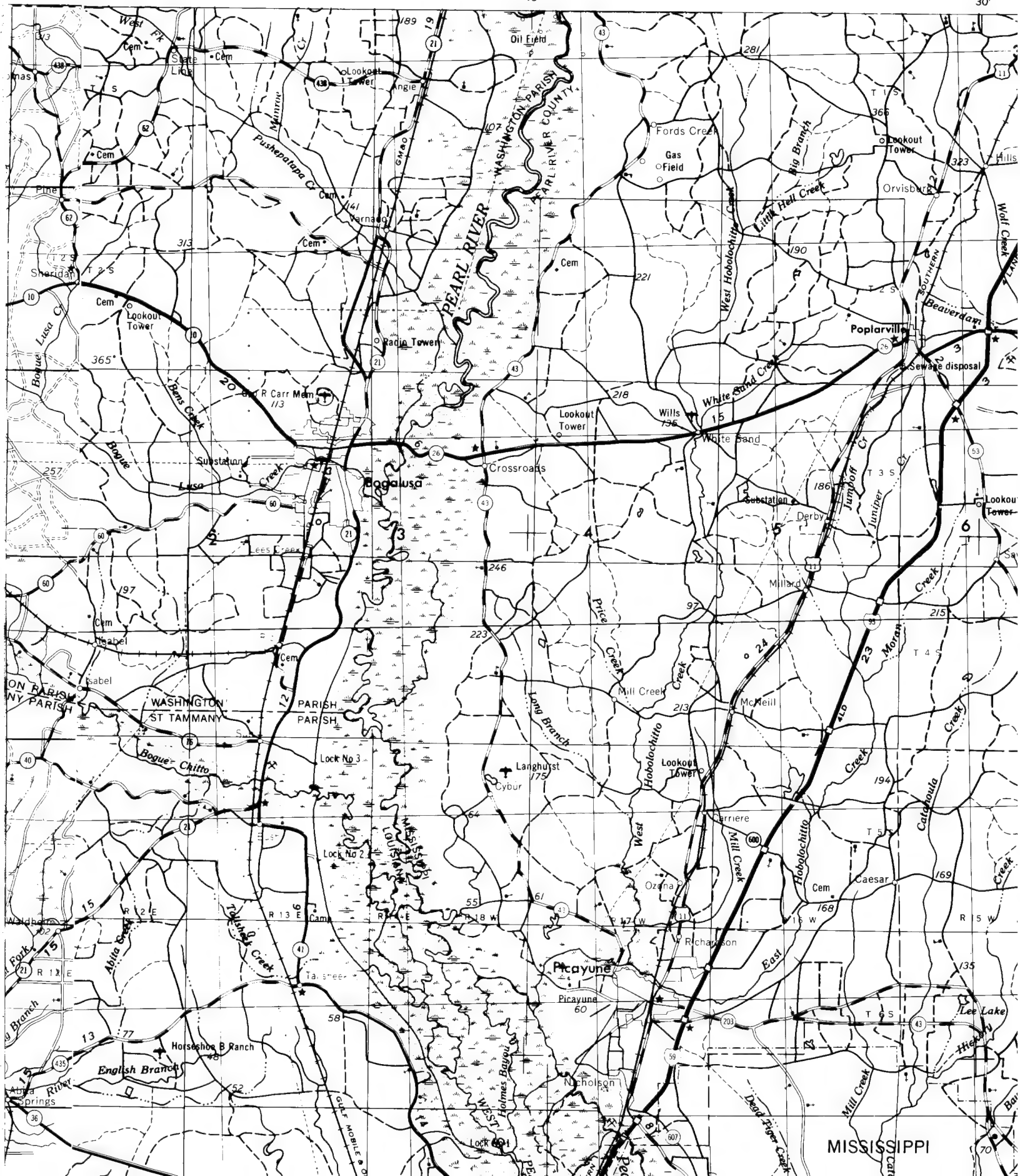
90'

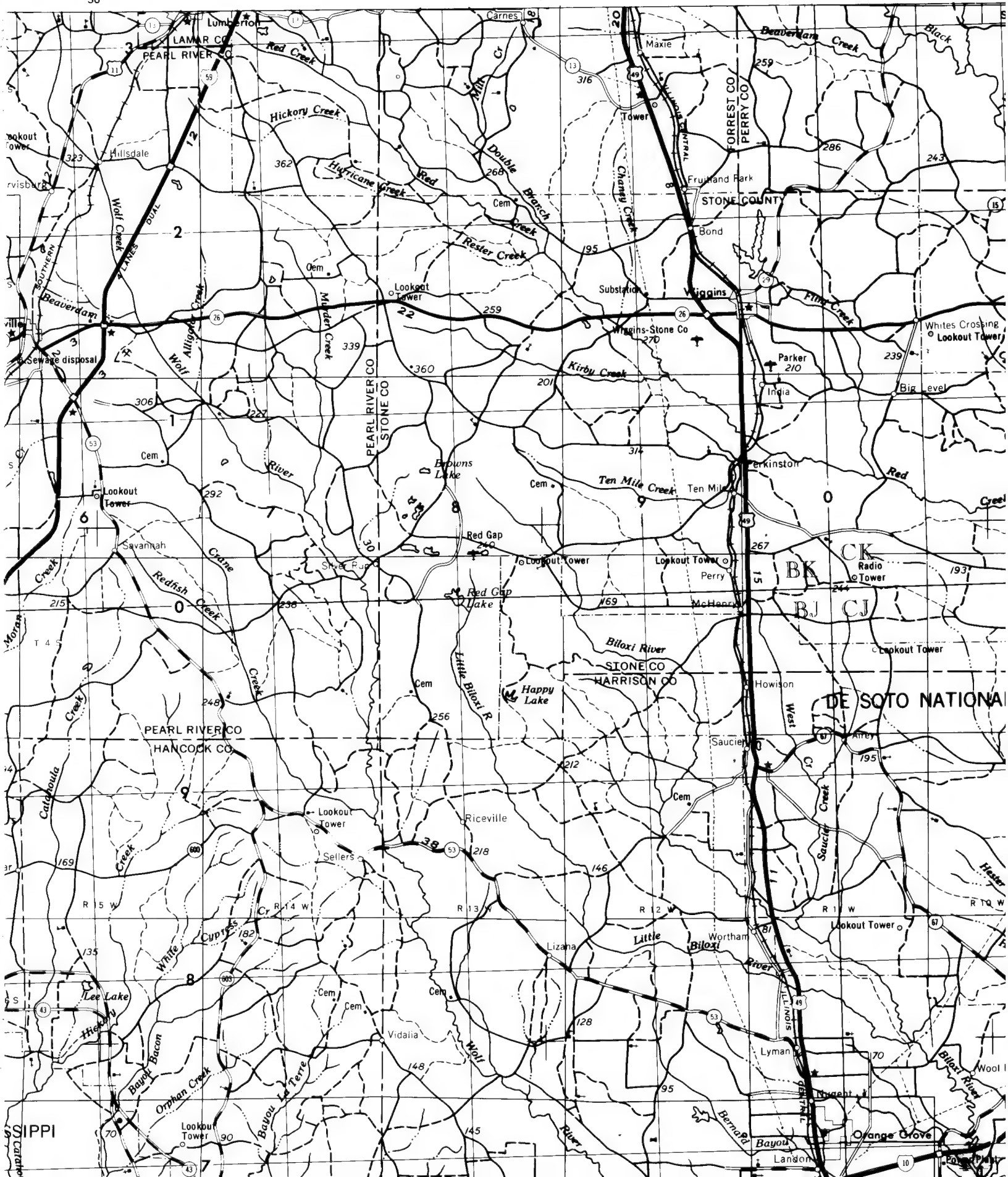


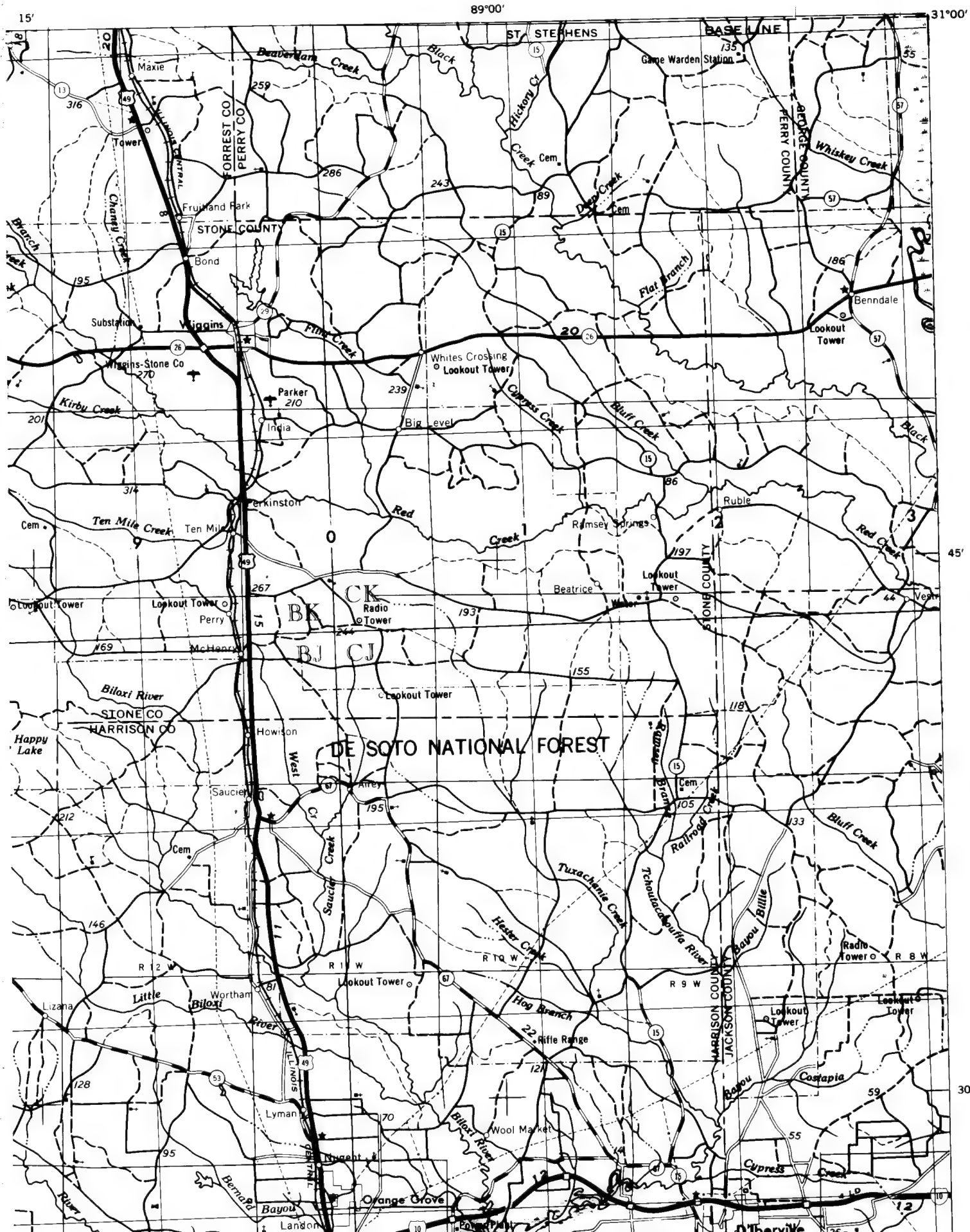
90°00'

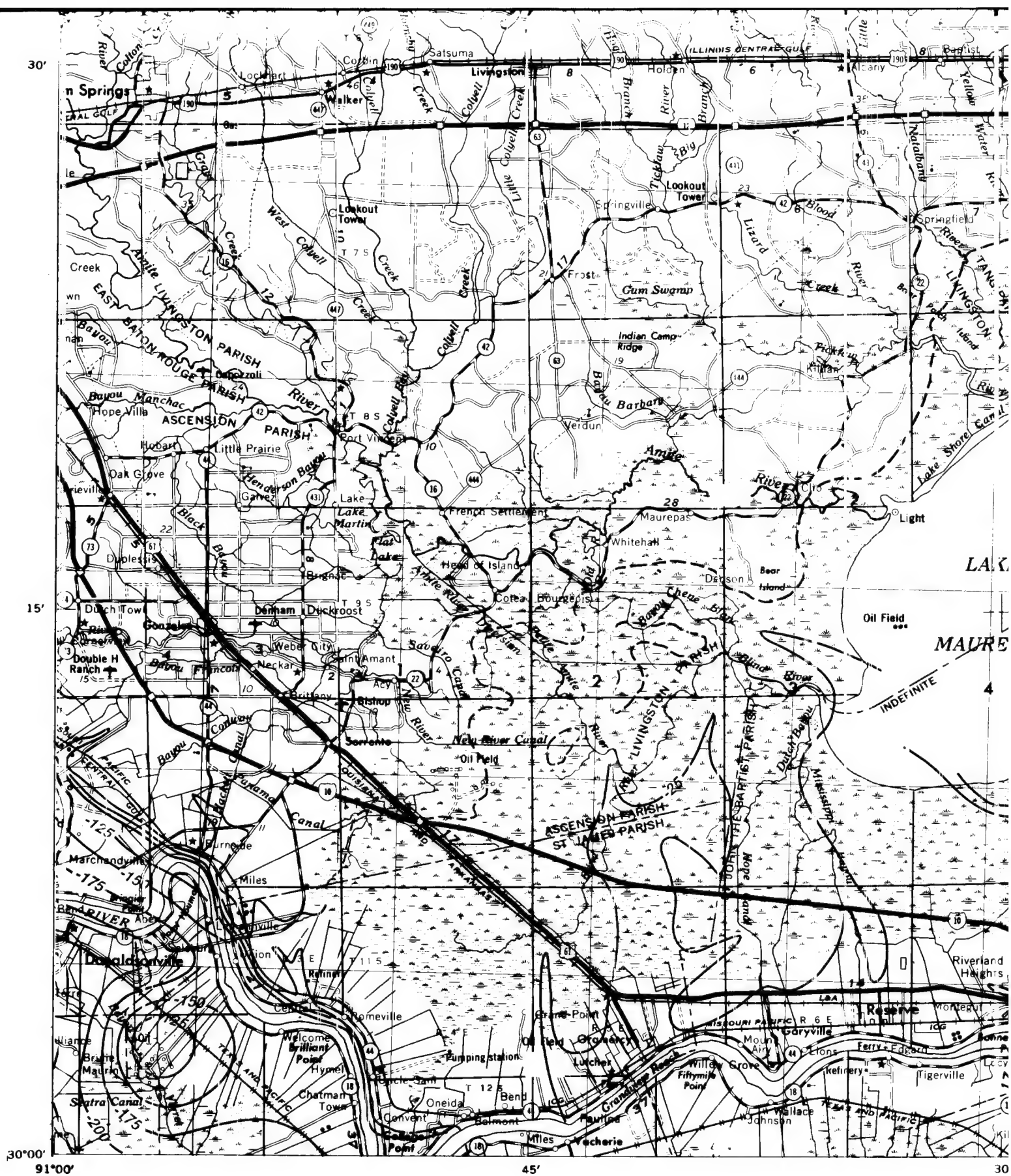
45'

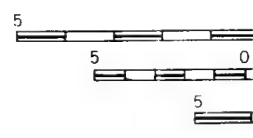
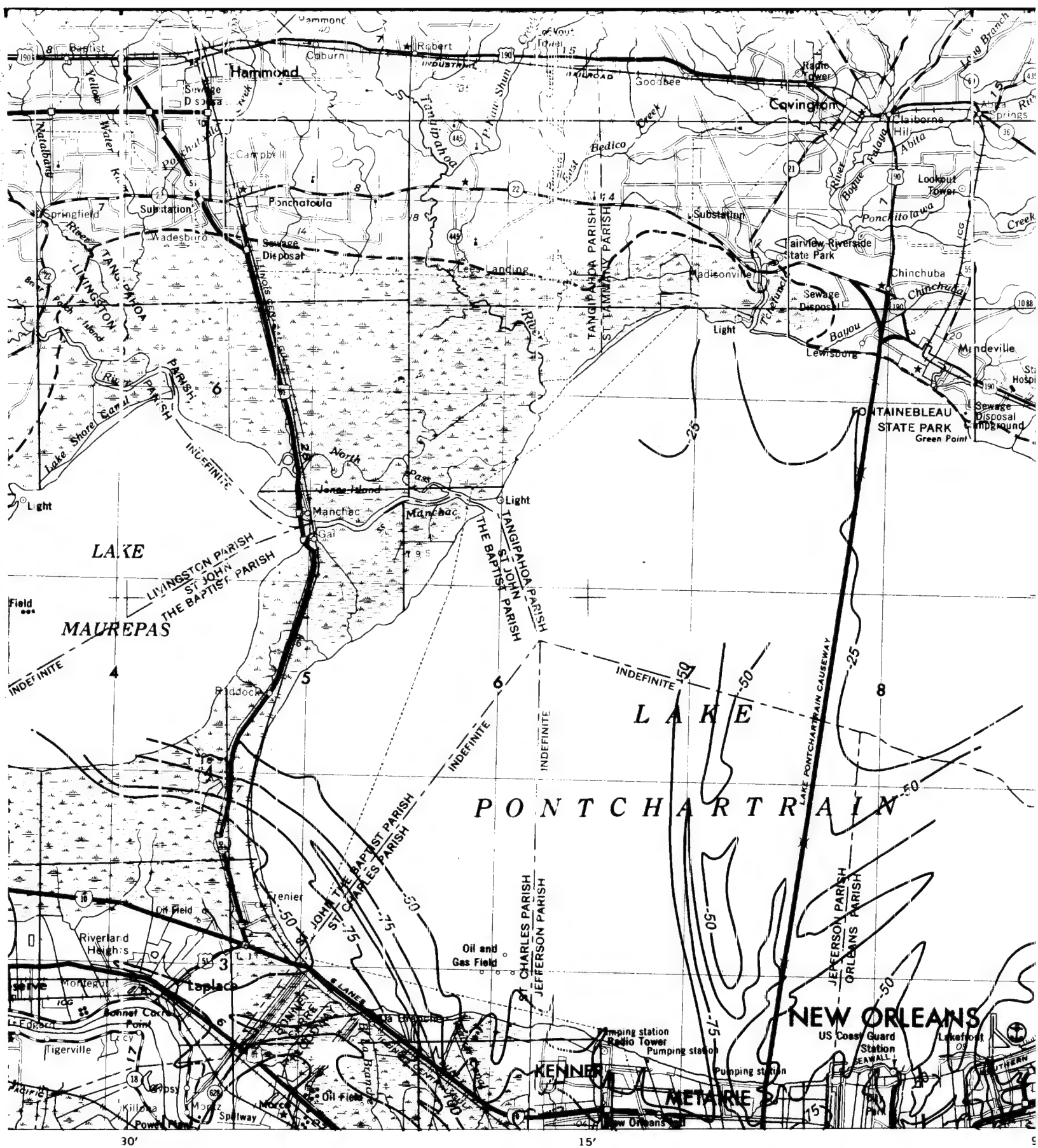
30'

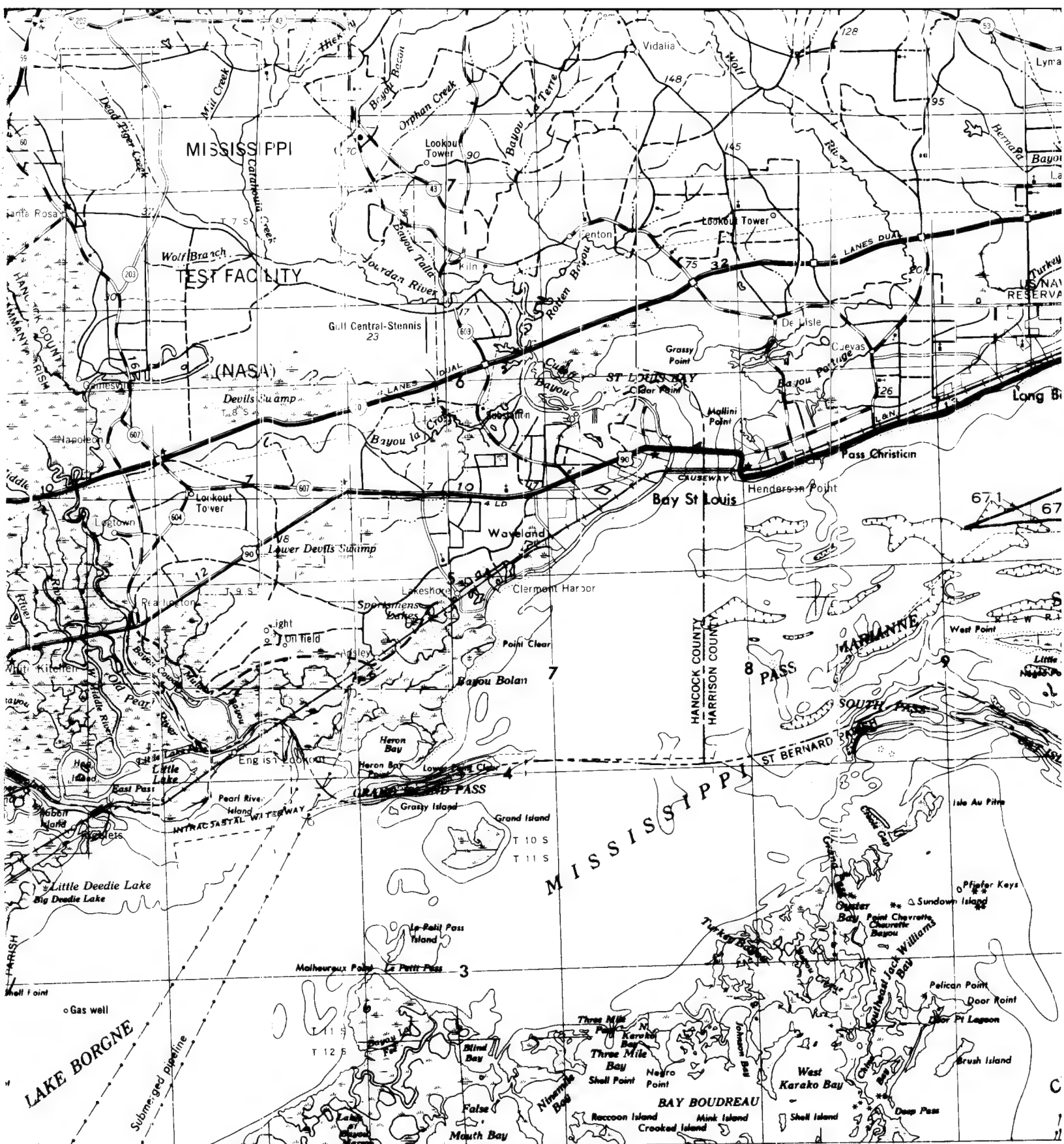








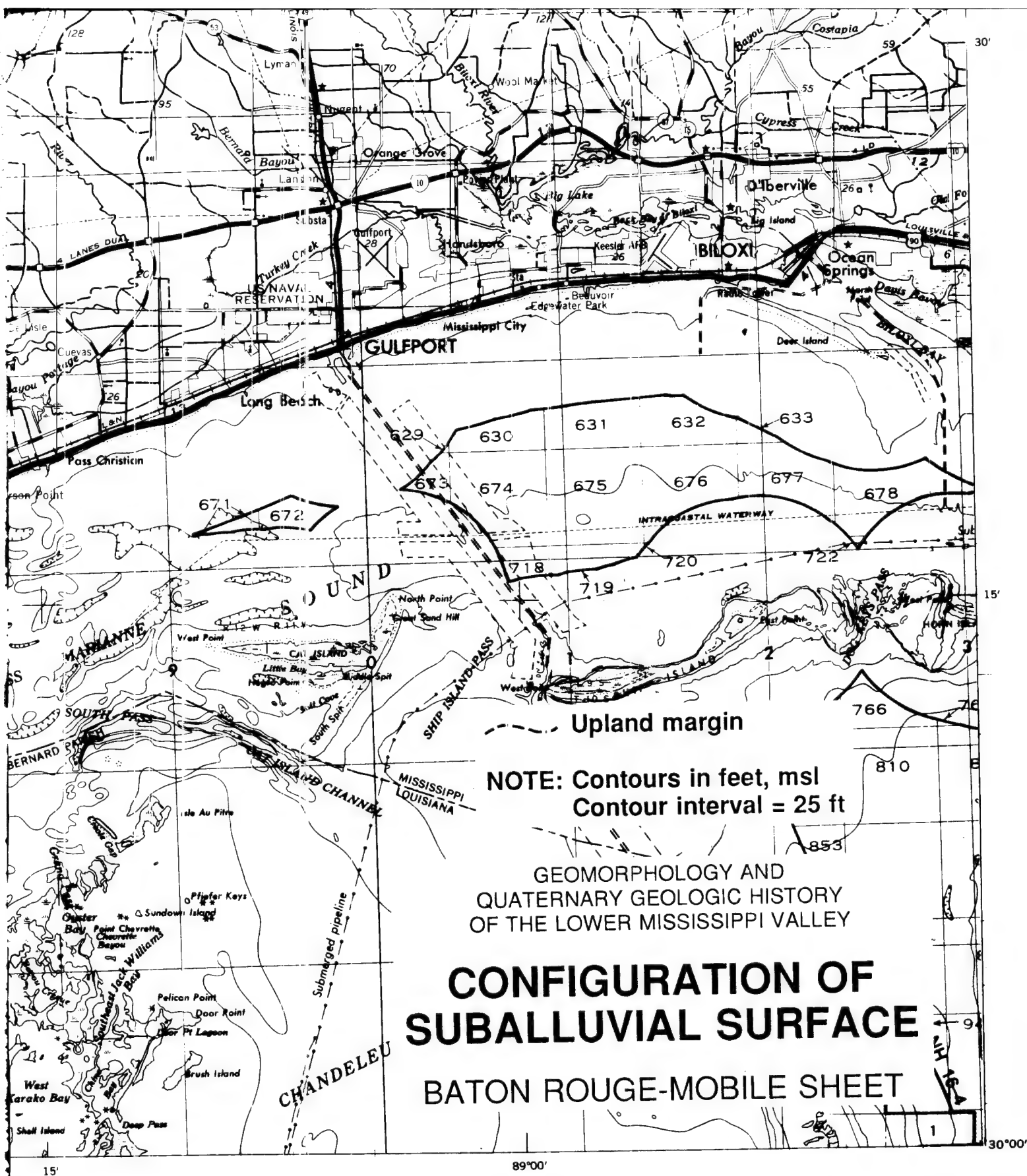


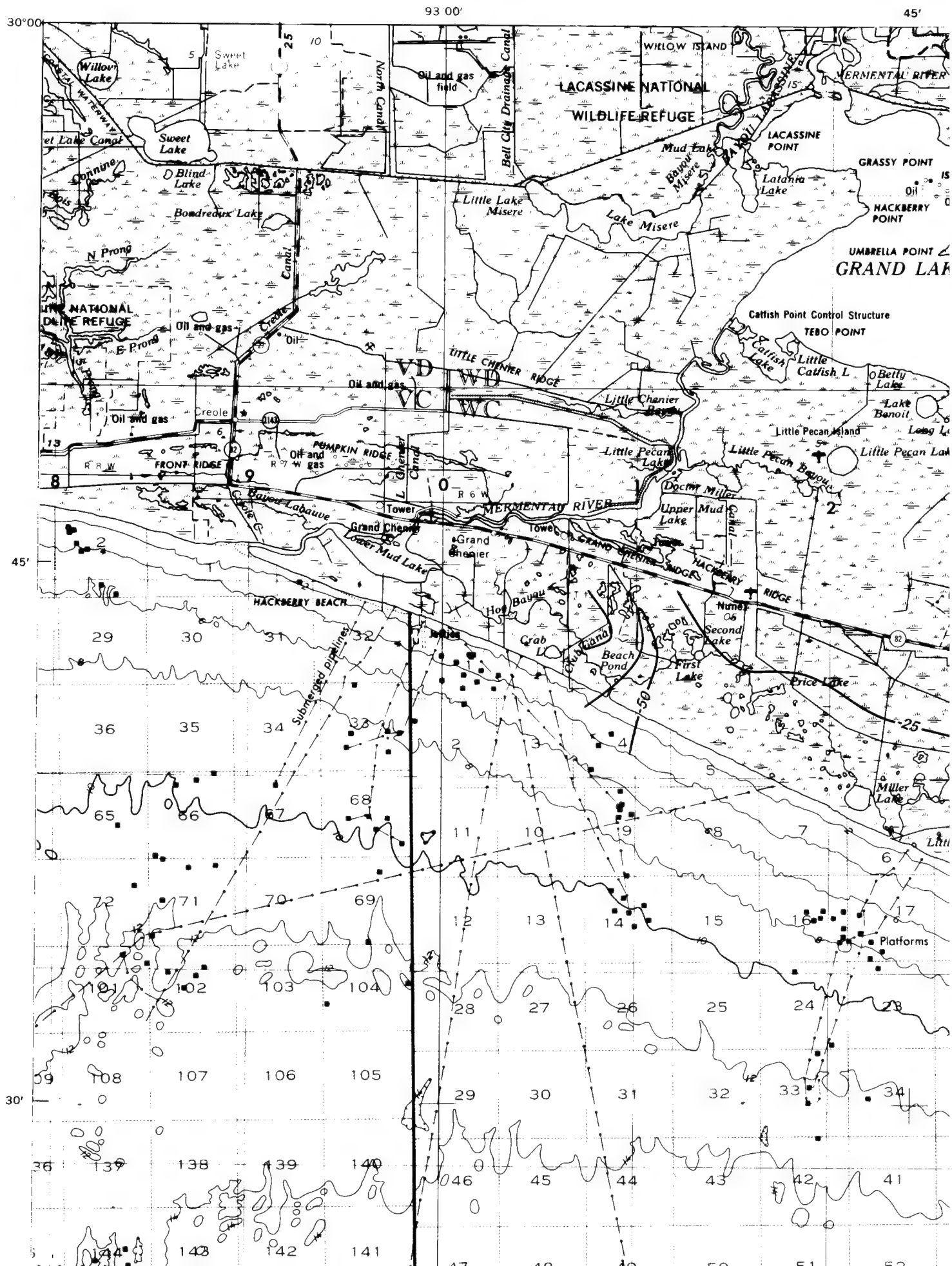


30

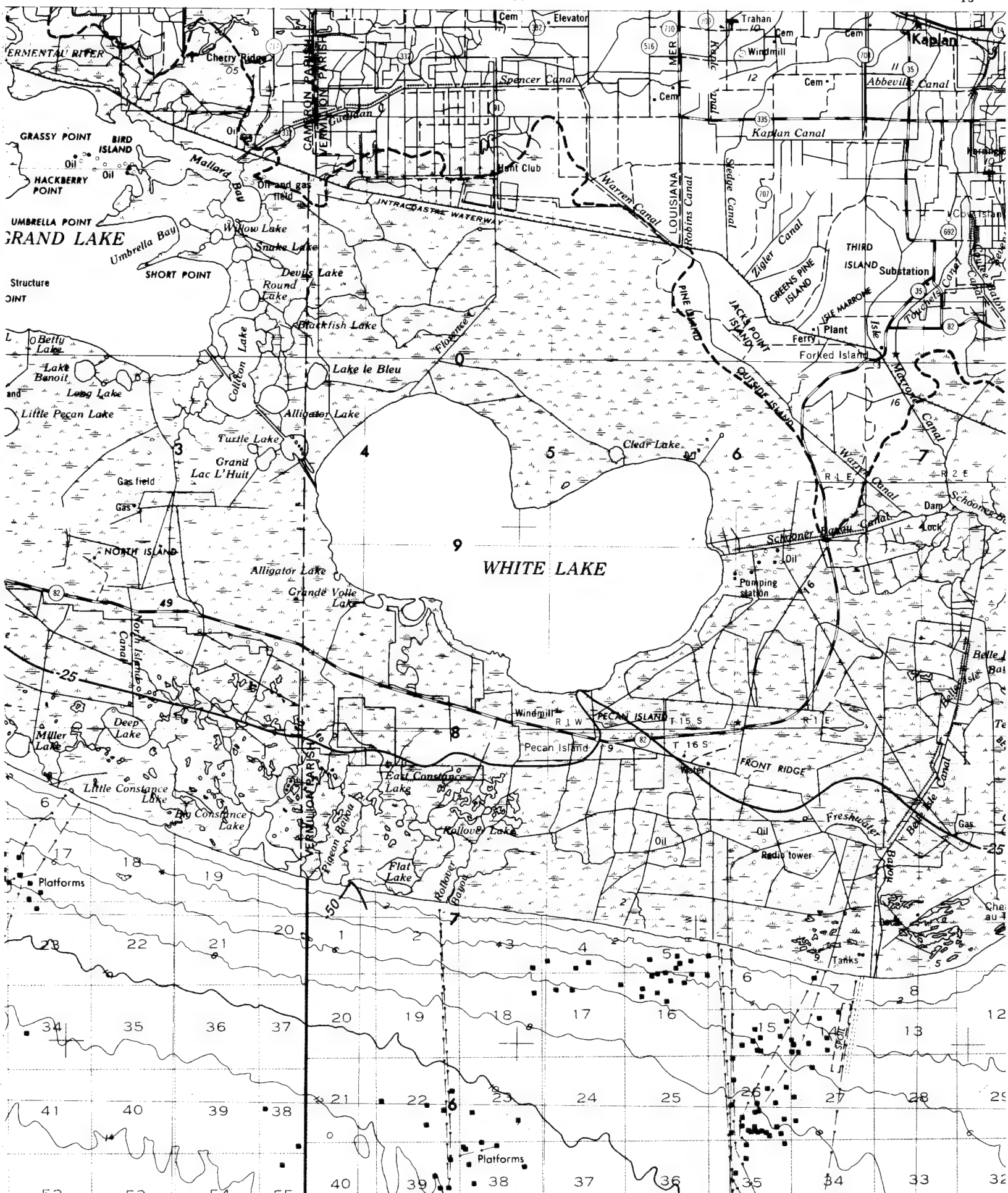
15

20 Statute Miles
10
5
1
0



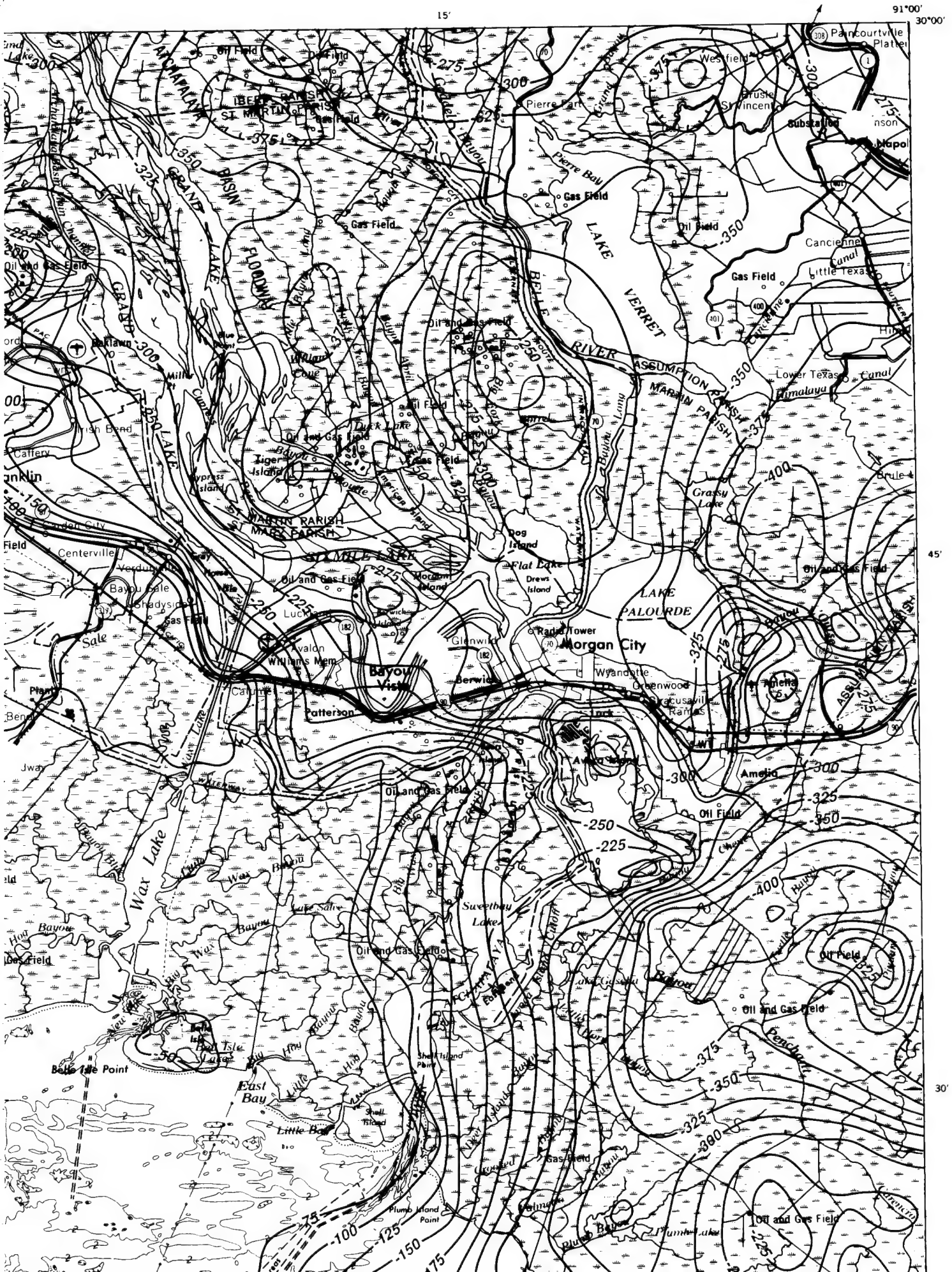


15'



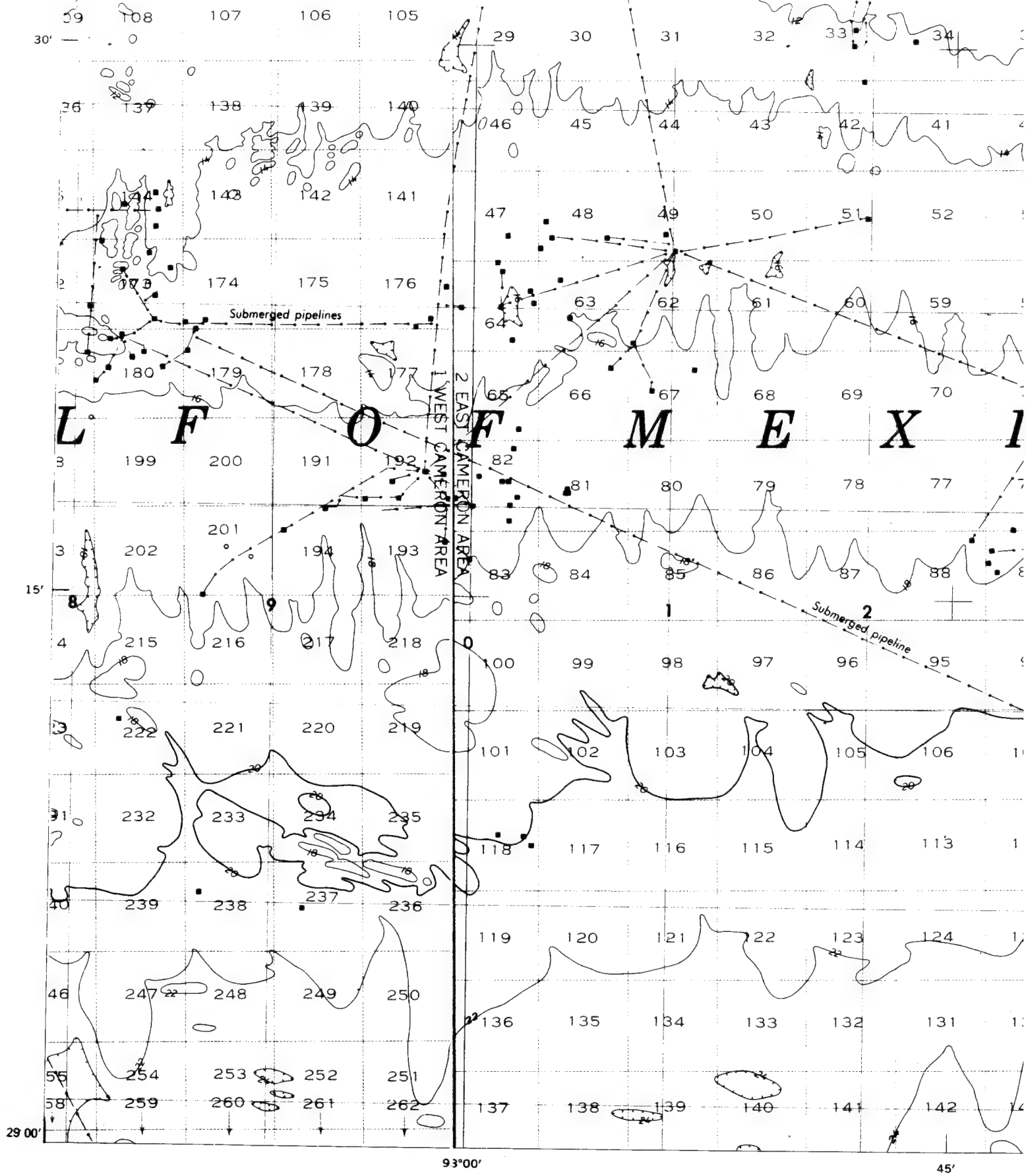


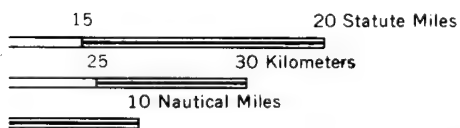
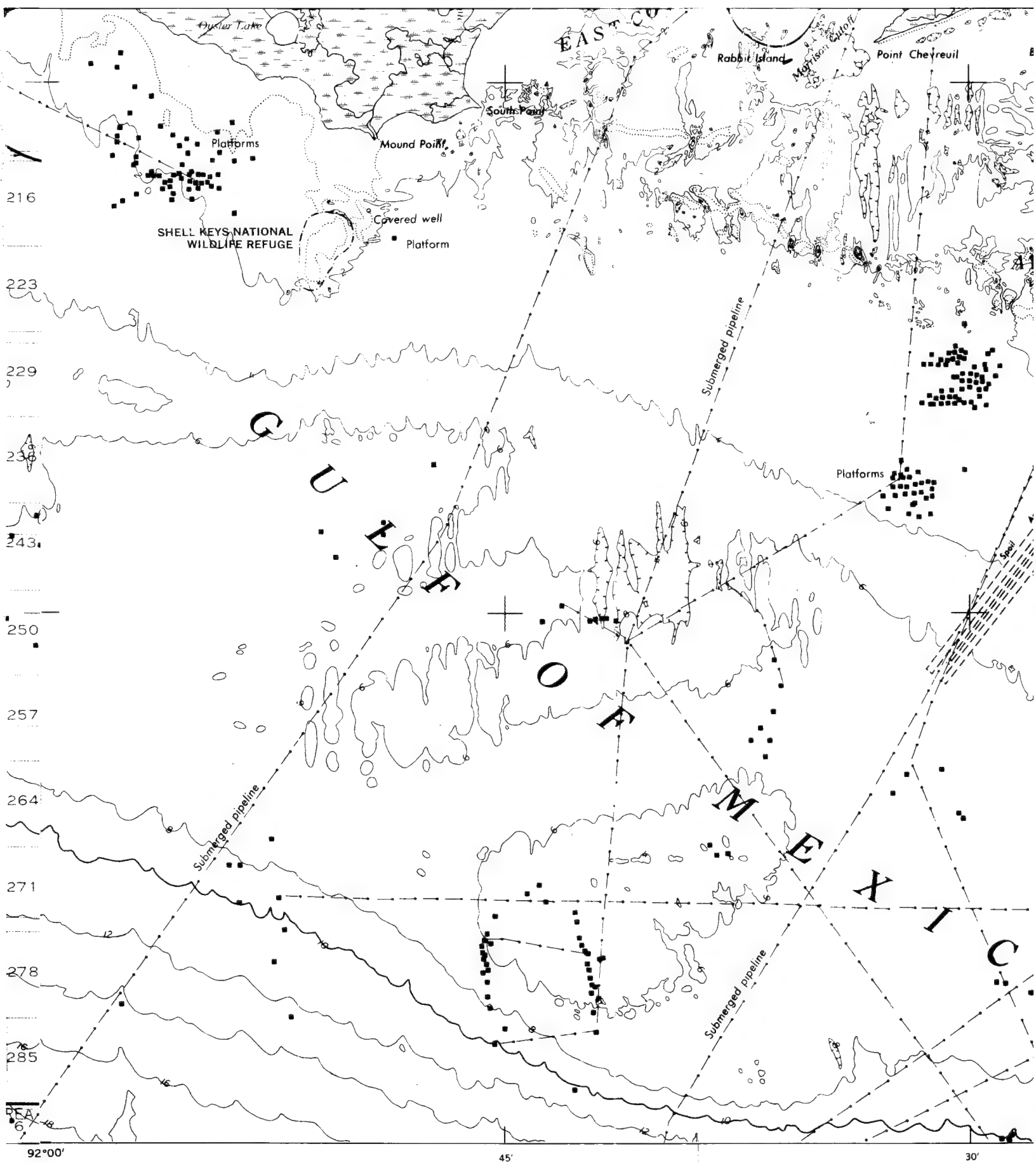
15'

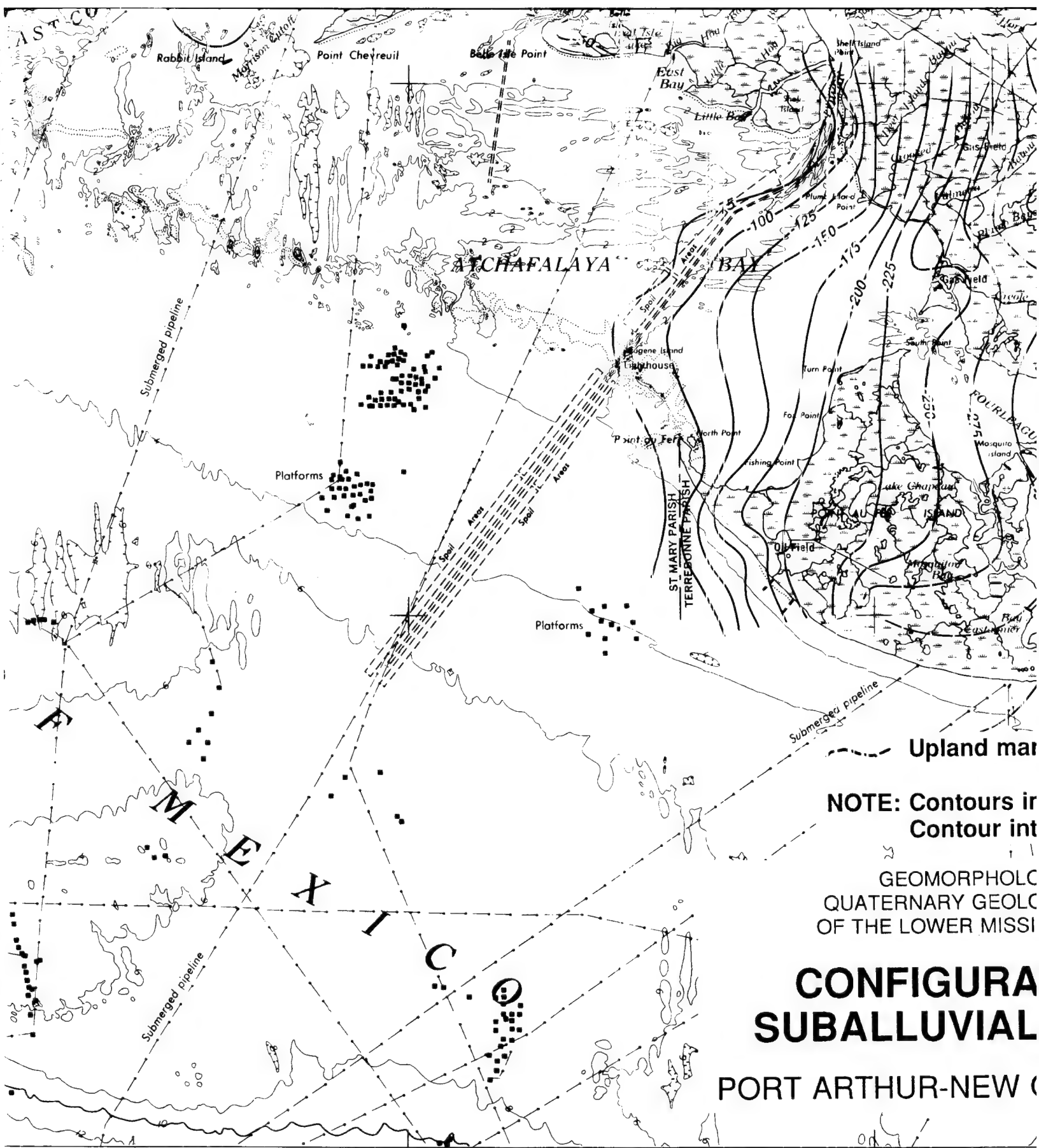
91°00'
30°00'

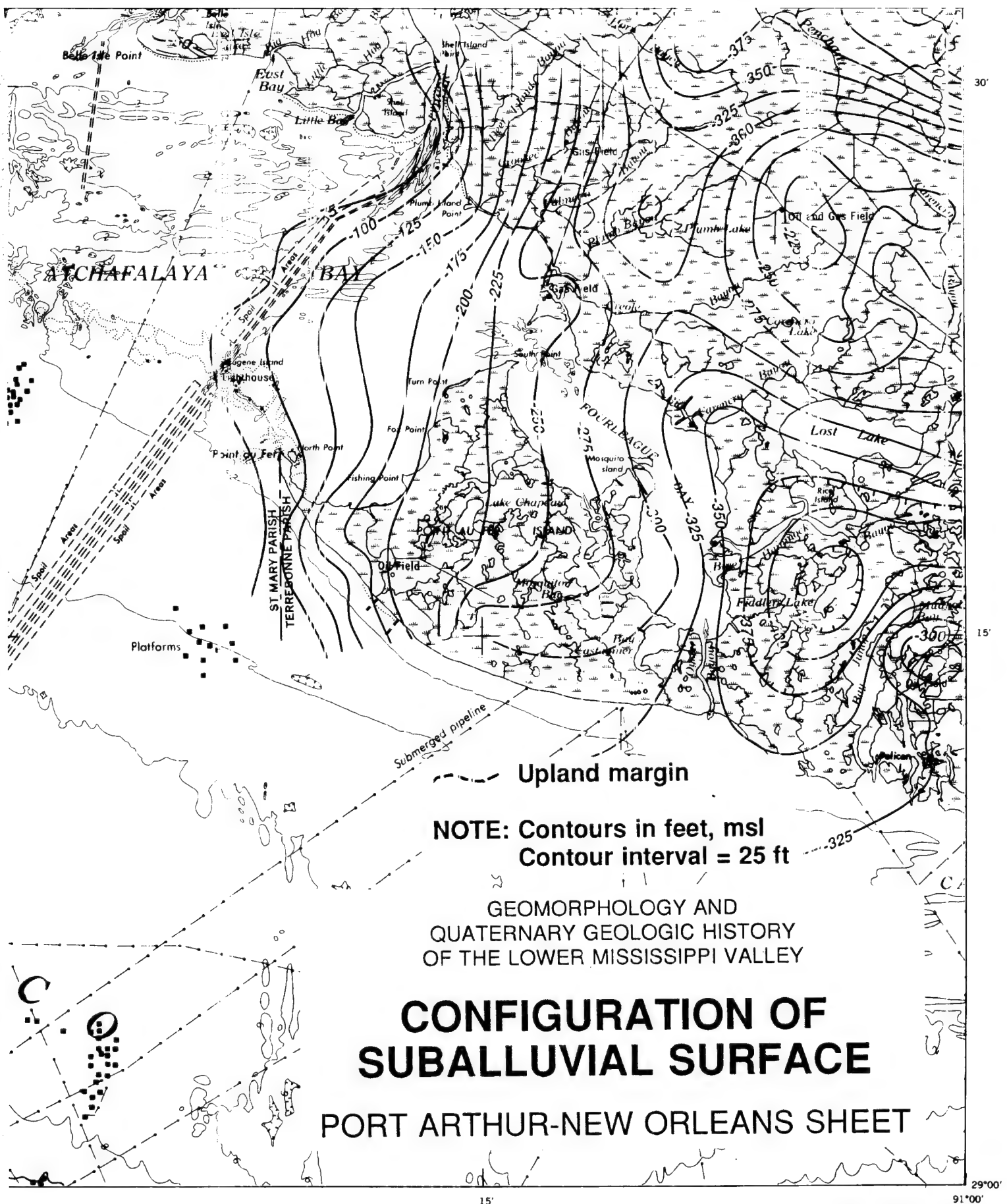
45'

30'

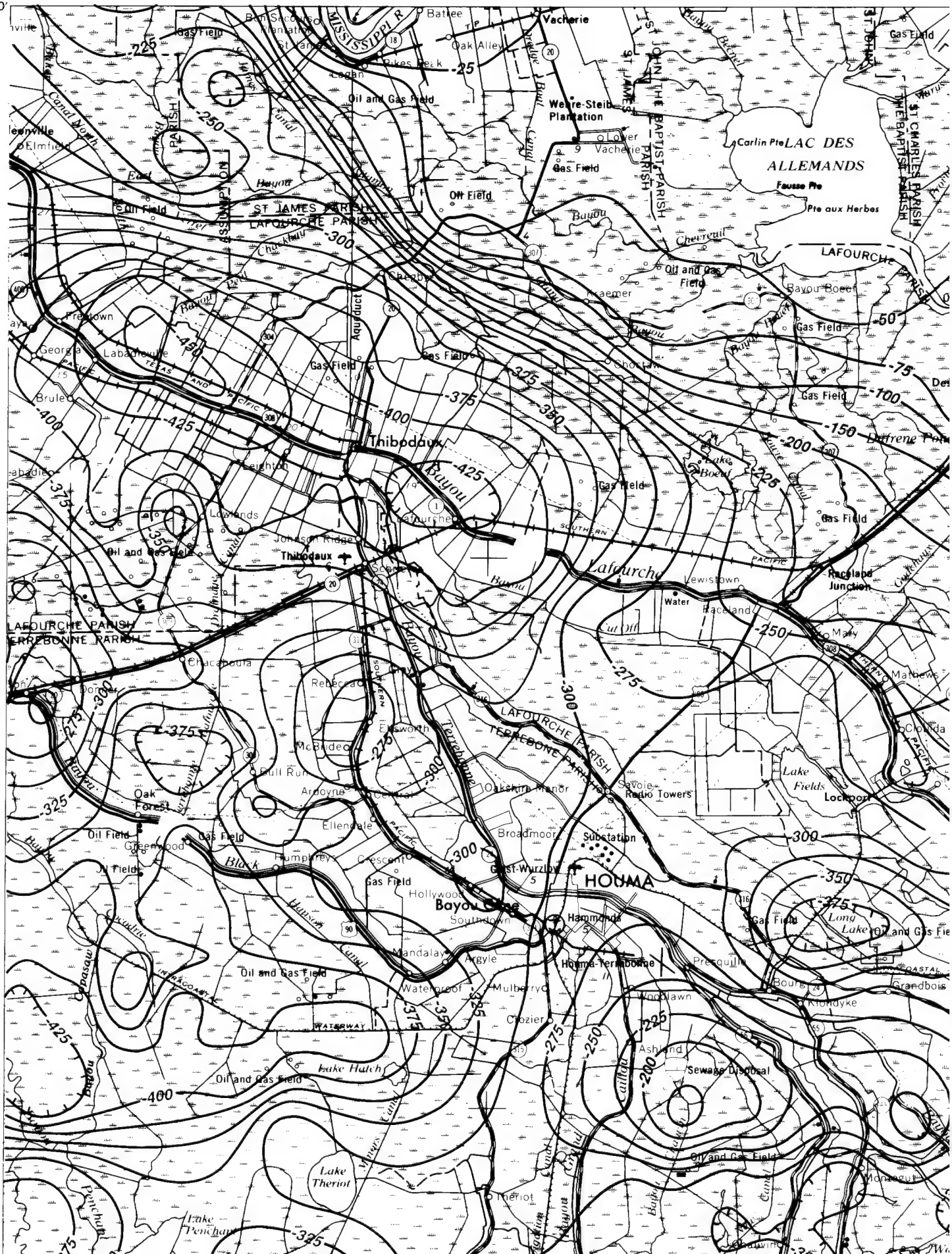


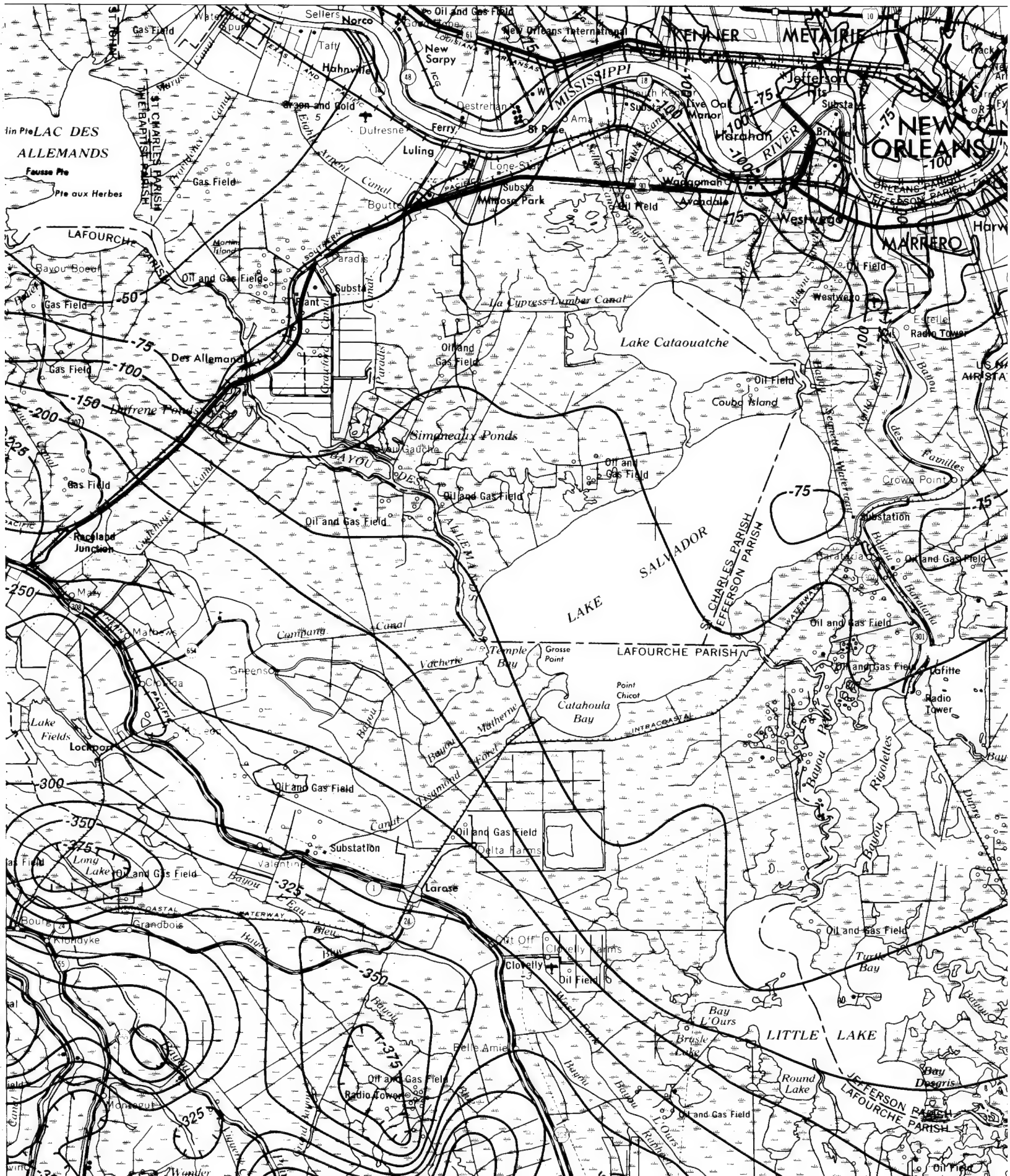




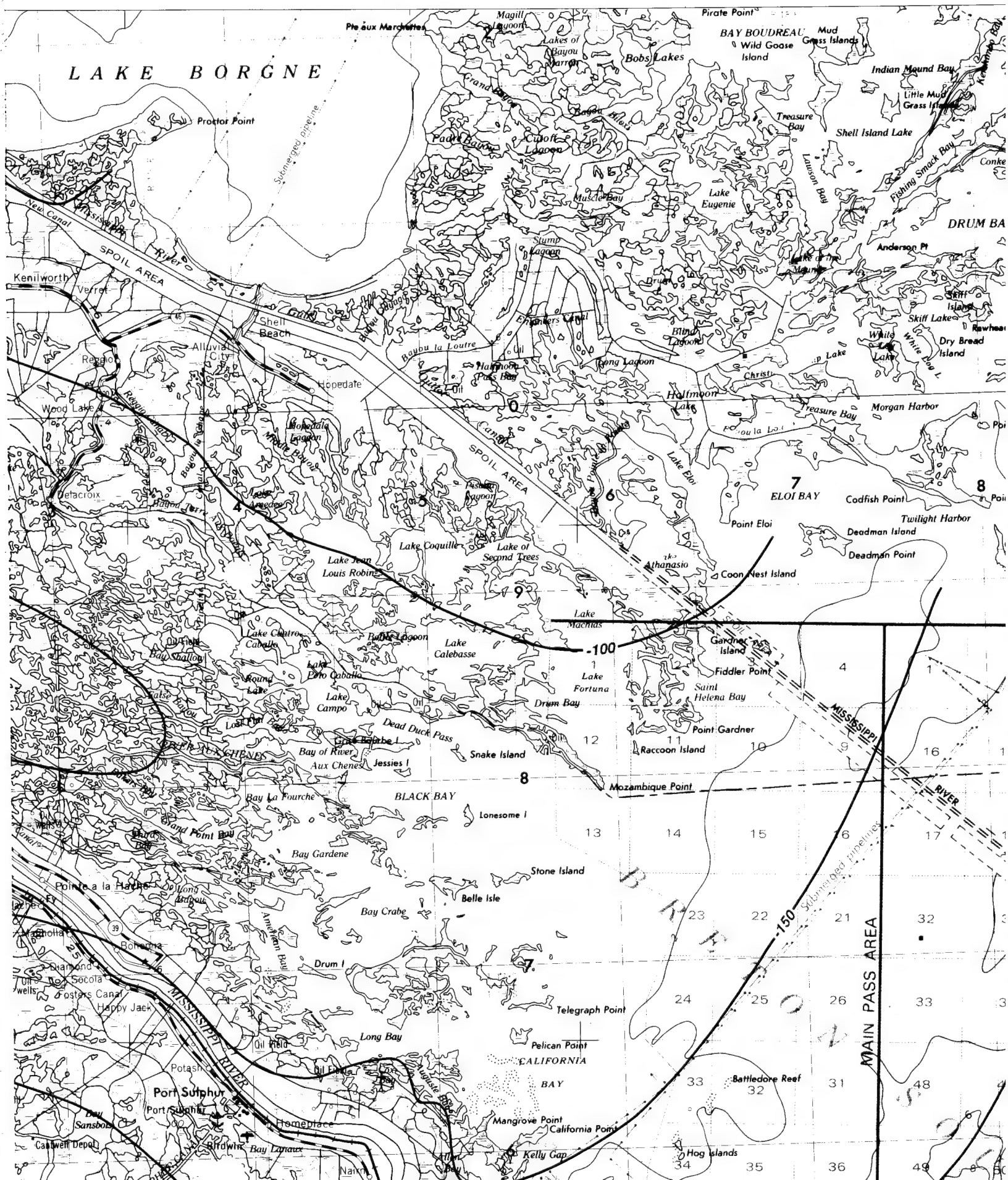


45'



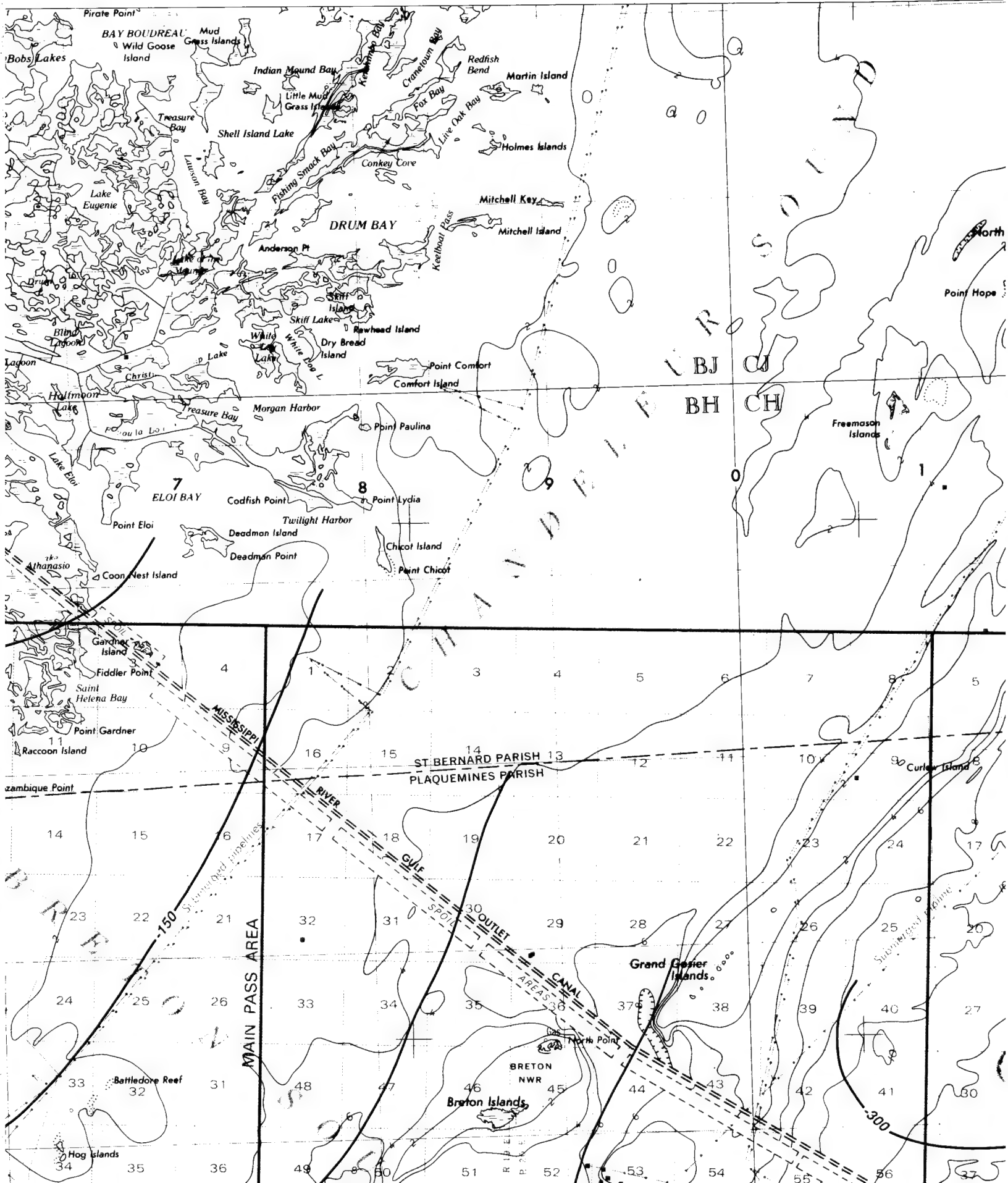


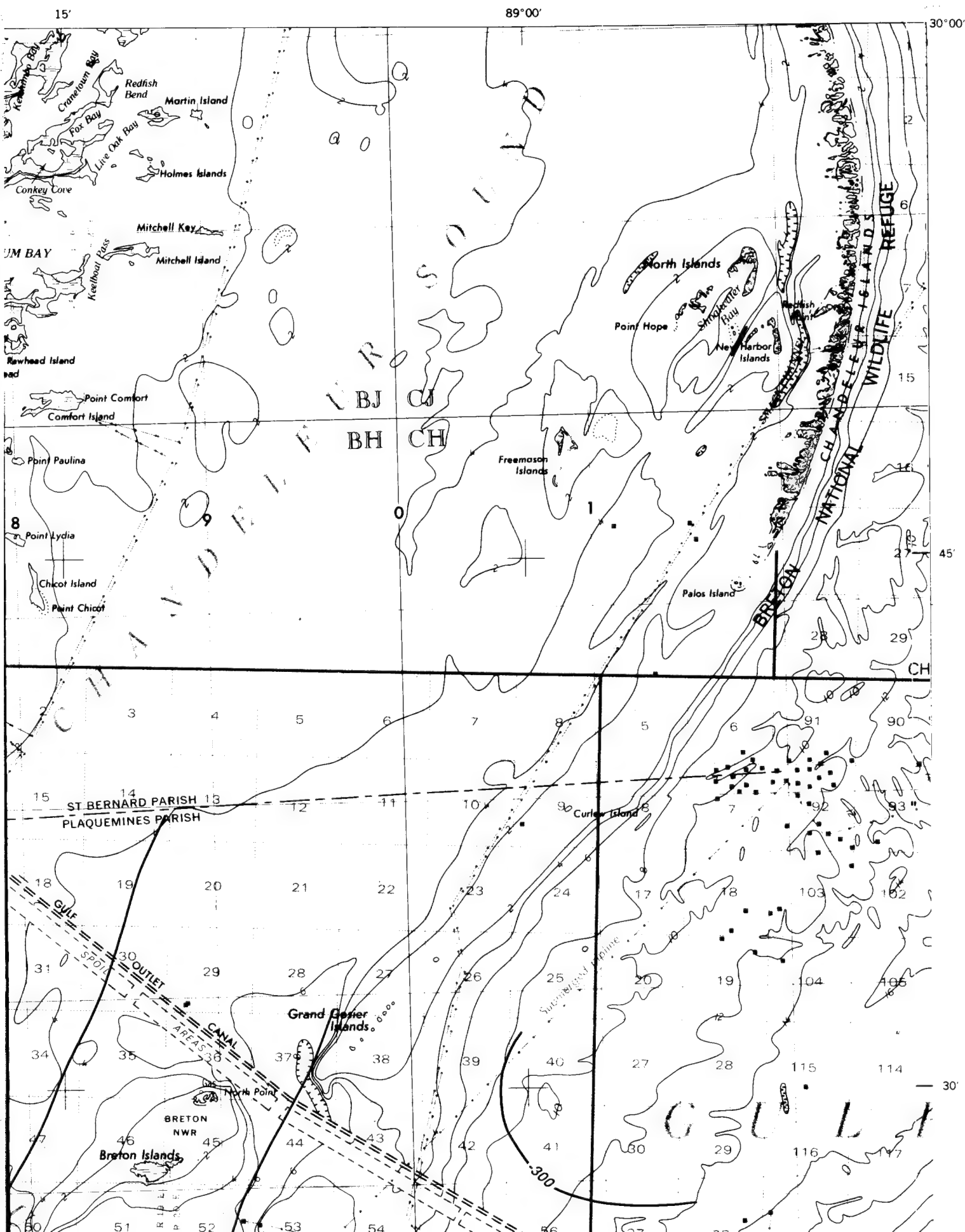


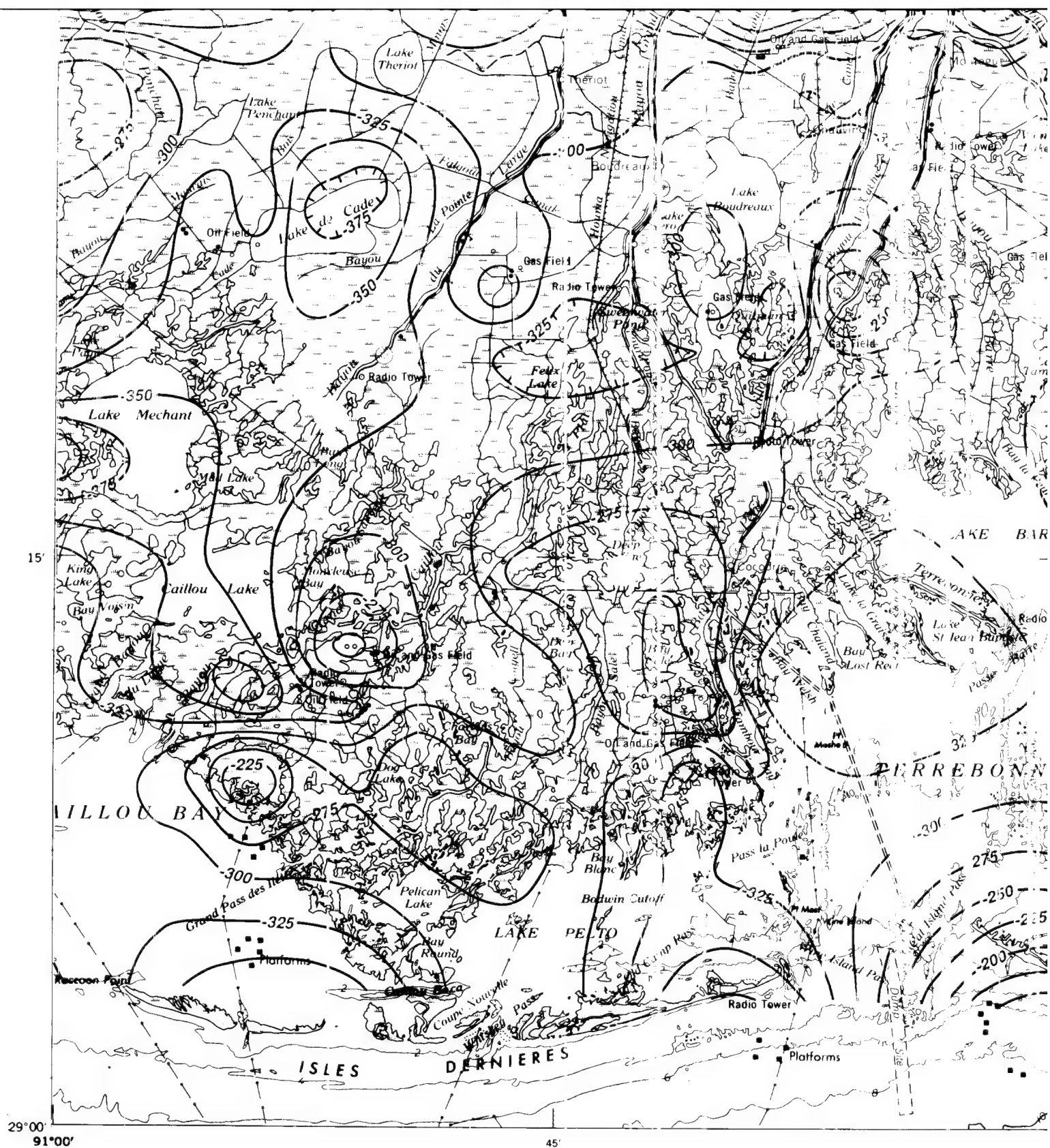


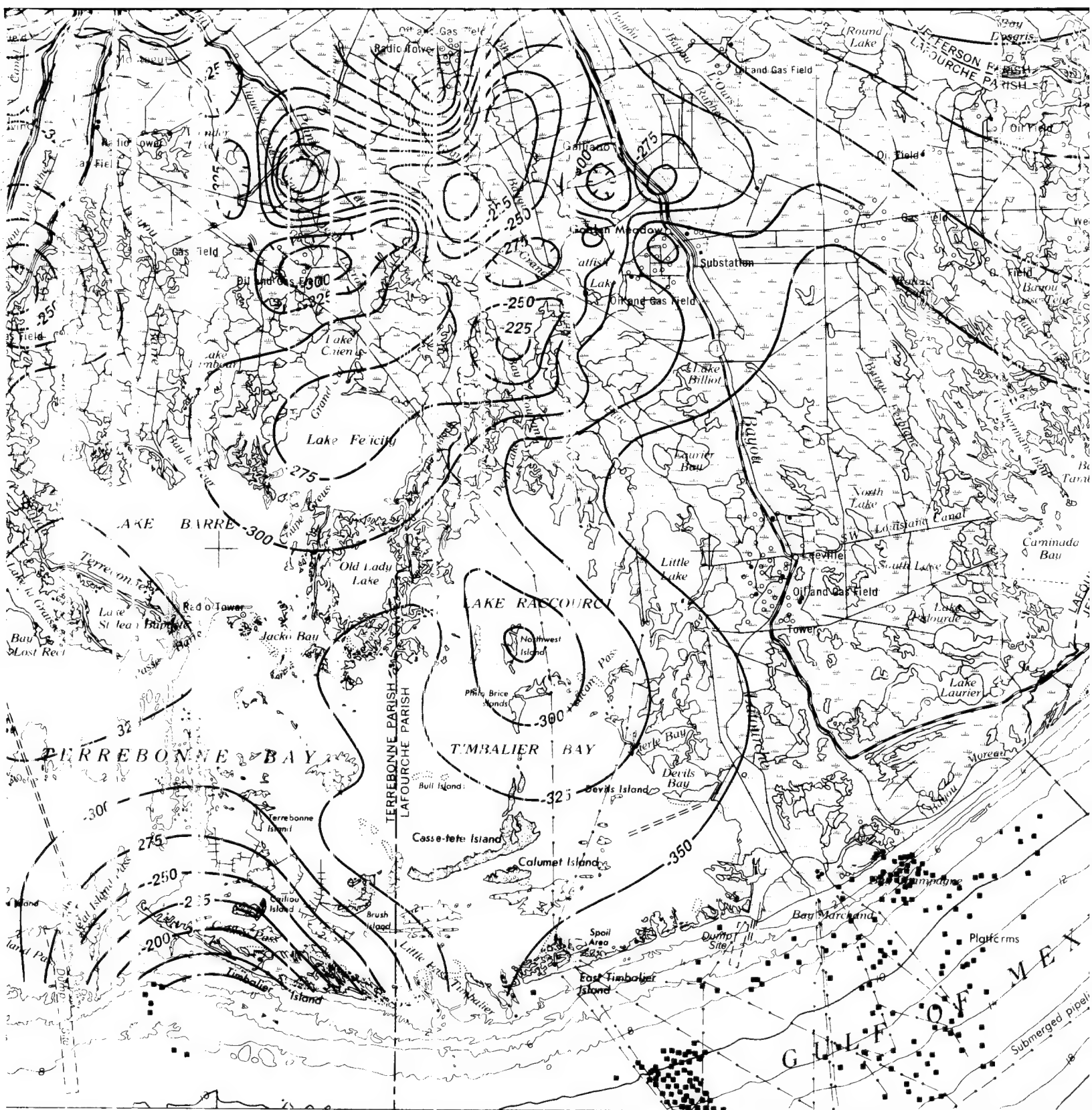
15°

89°00'



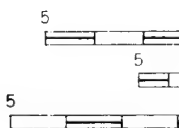


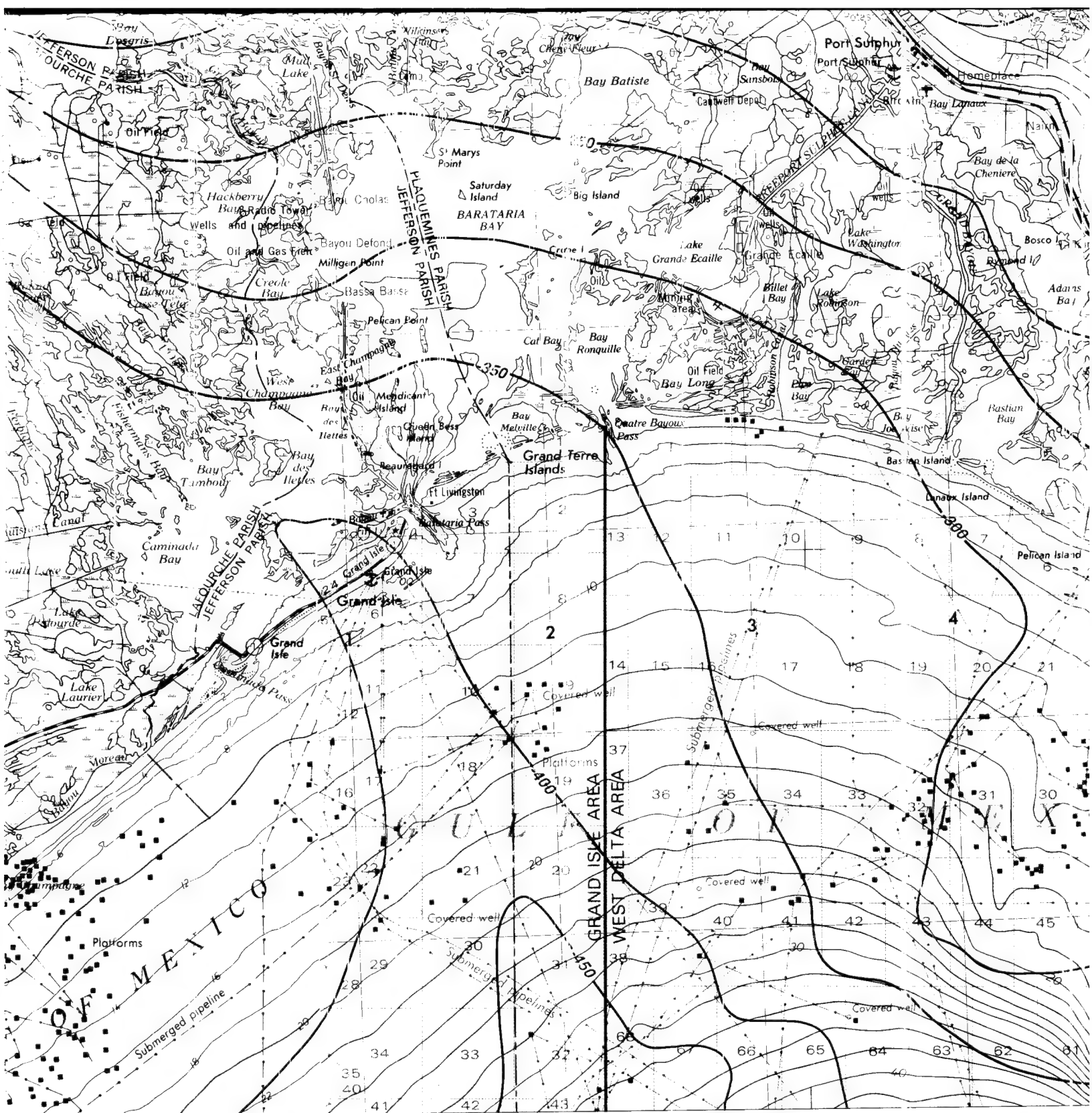




30'

15'

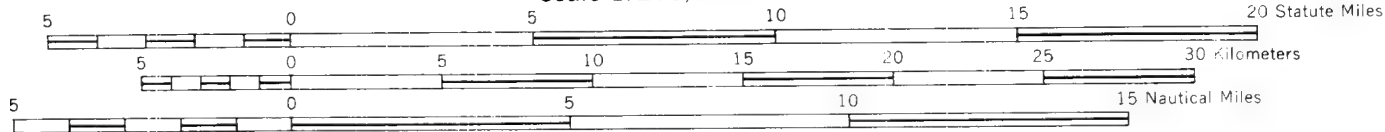


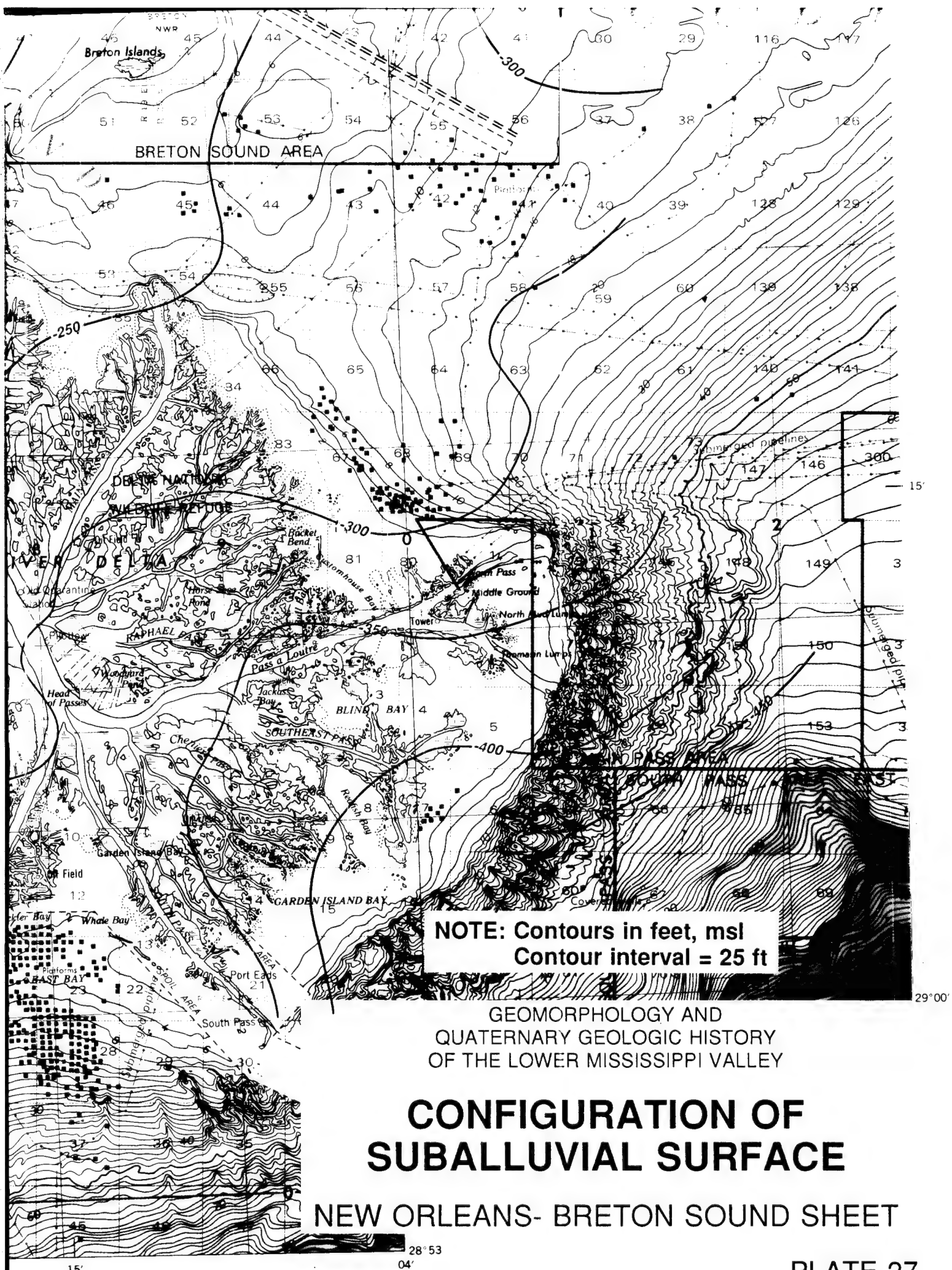


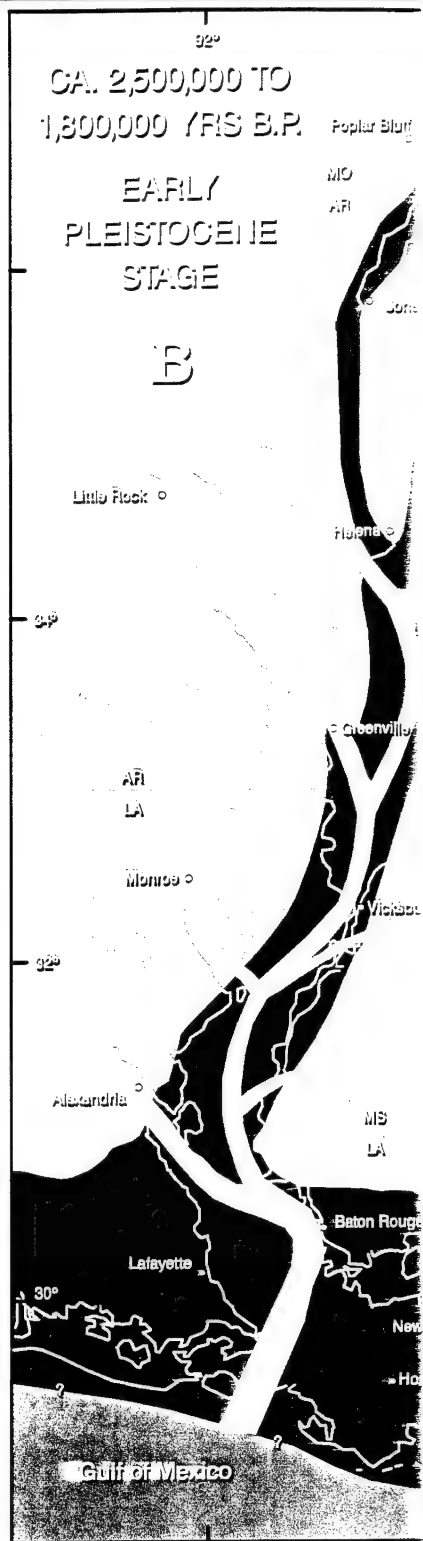
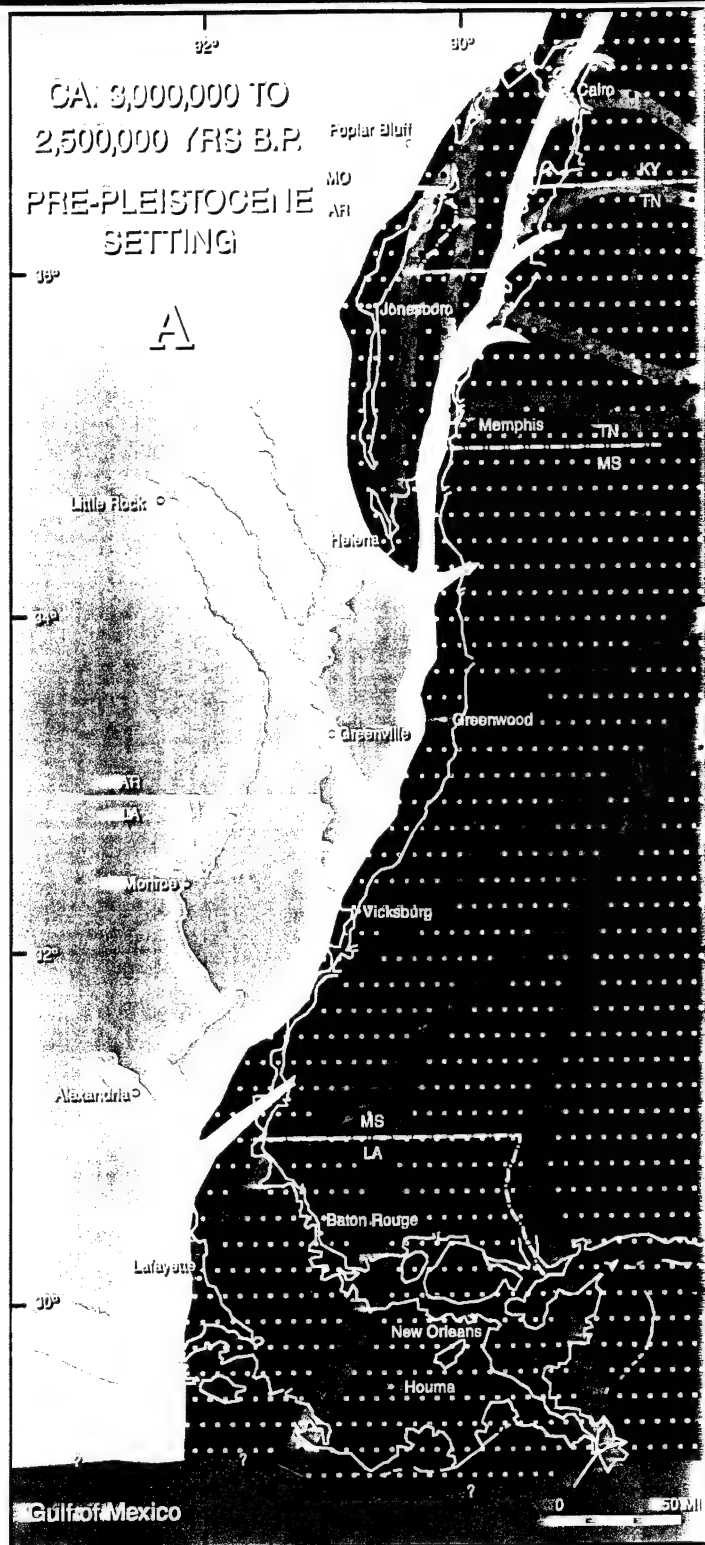
90°00'

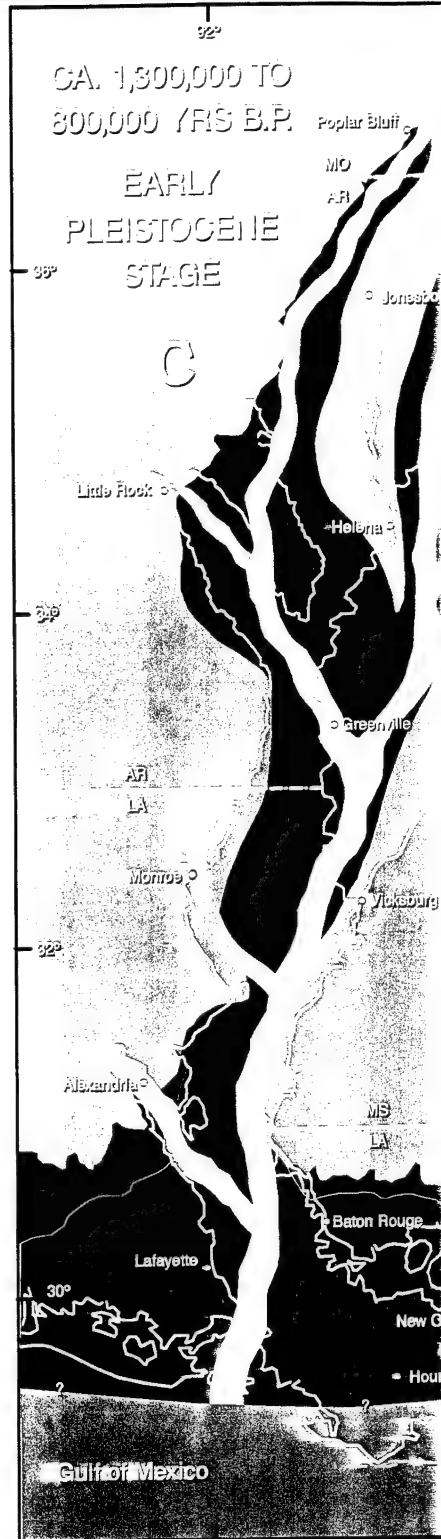
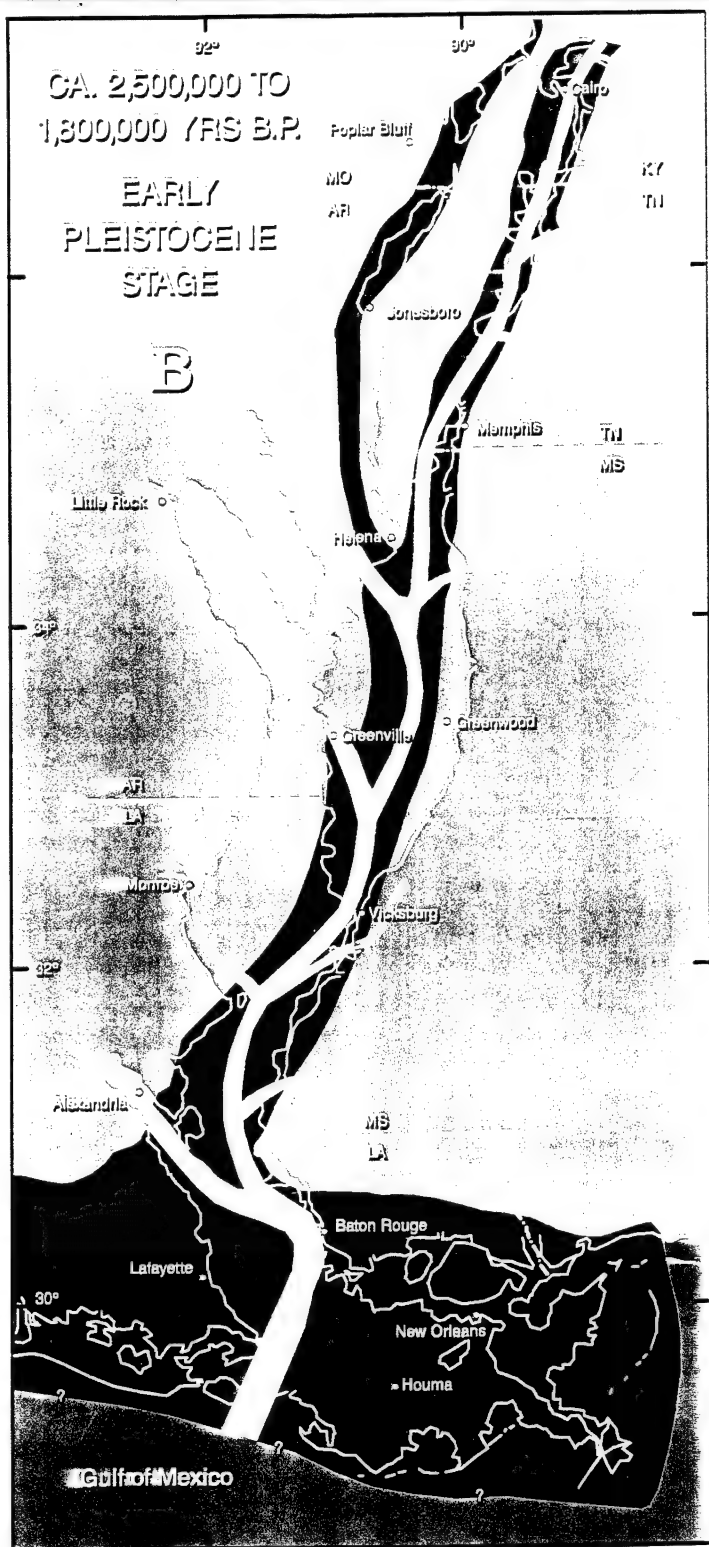
45'

Scale 1:250,000









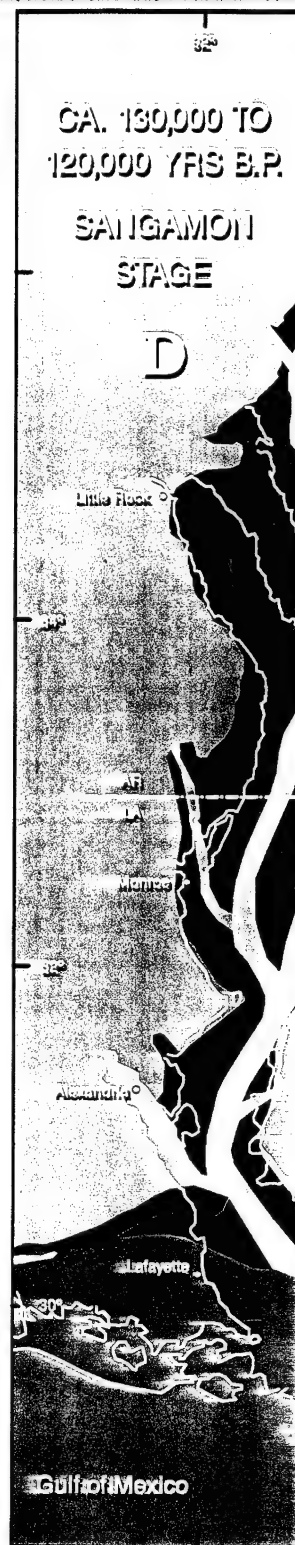
CA. 1,300,000 TO
800,000 YRS B.P.

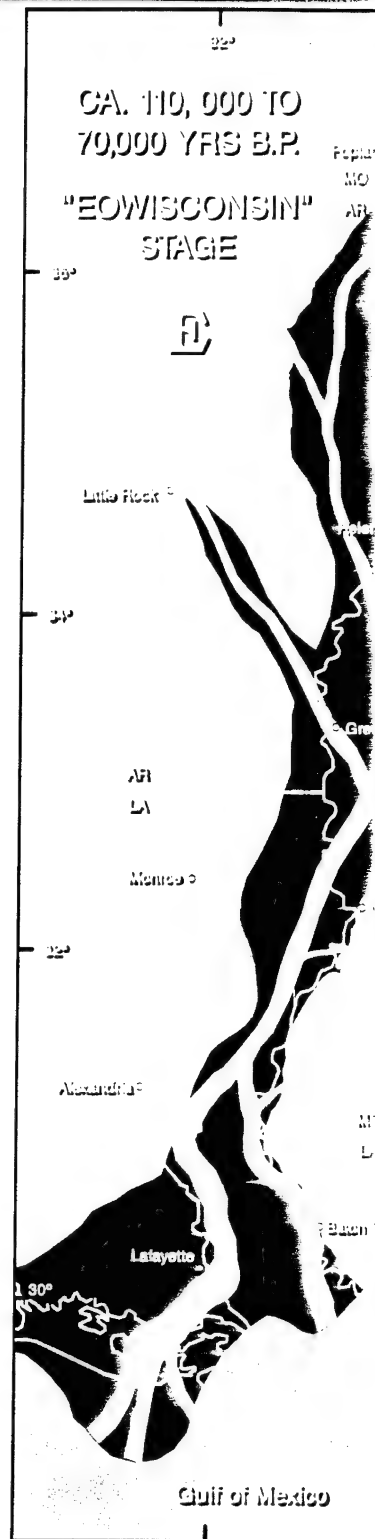
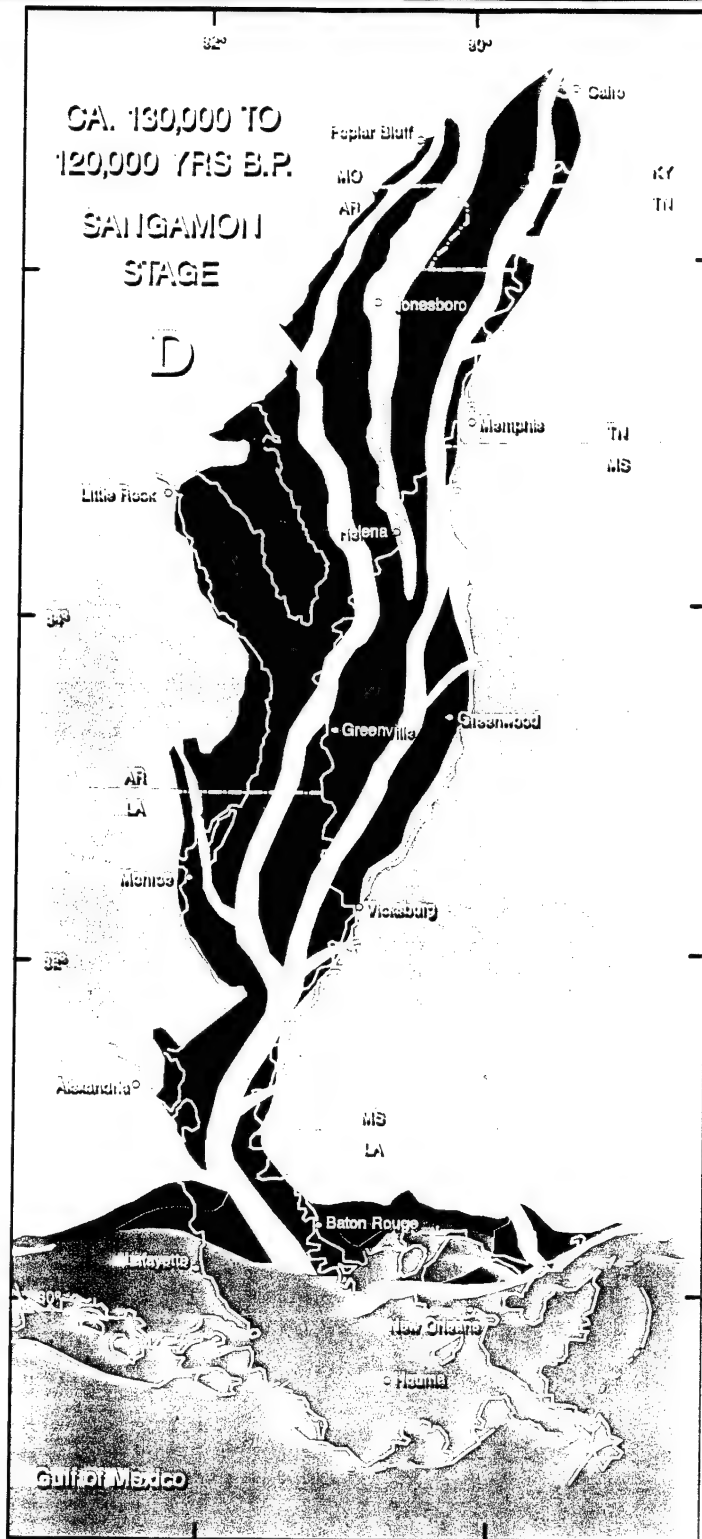
EARLY PLEISTOCENE STAGE



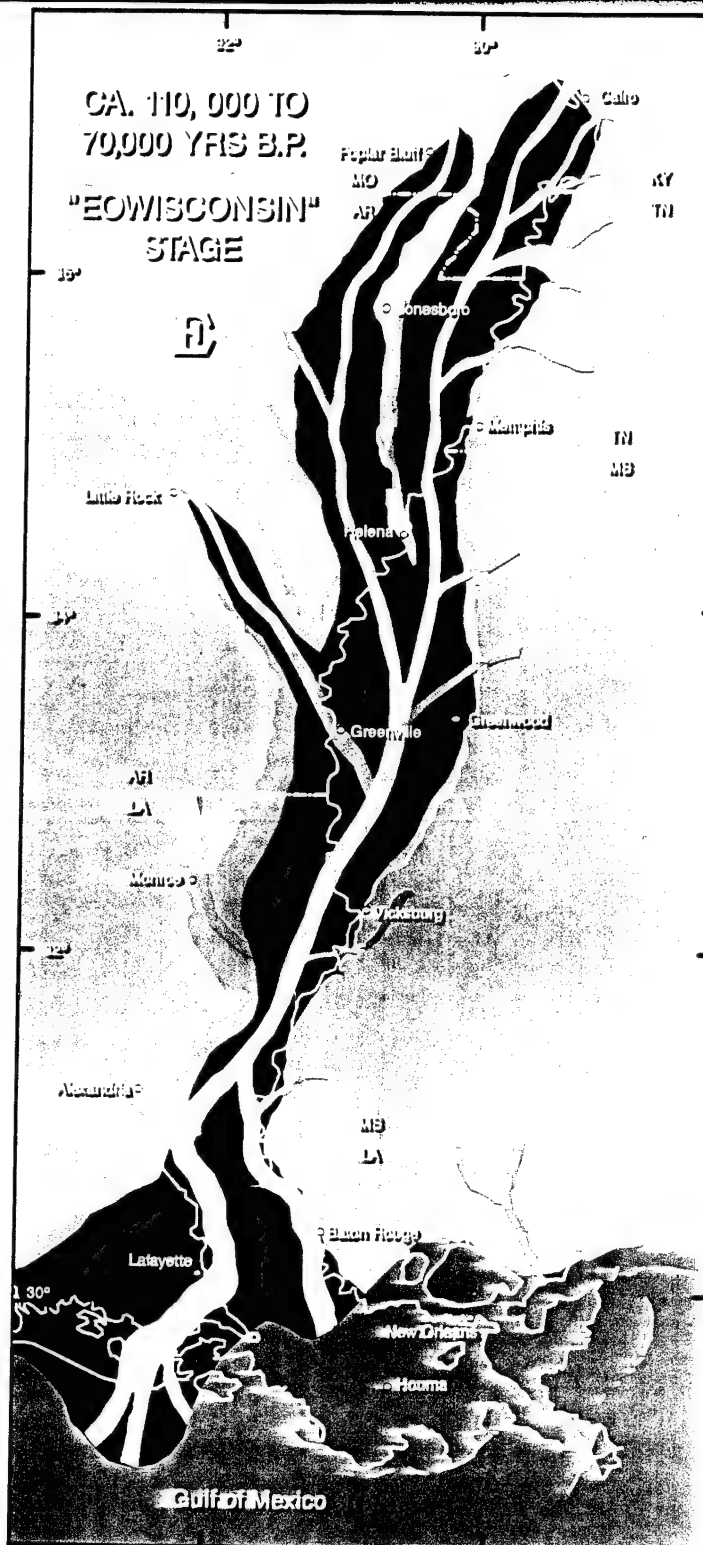
CA. 130,000 TO
120,000 YRS B.P.

SANGAMON STAGE



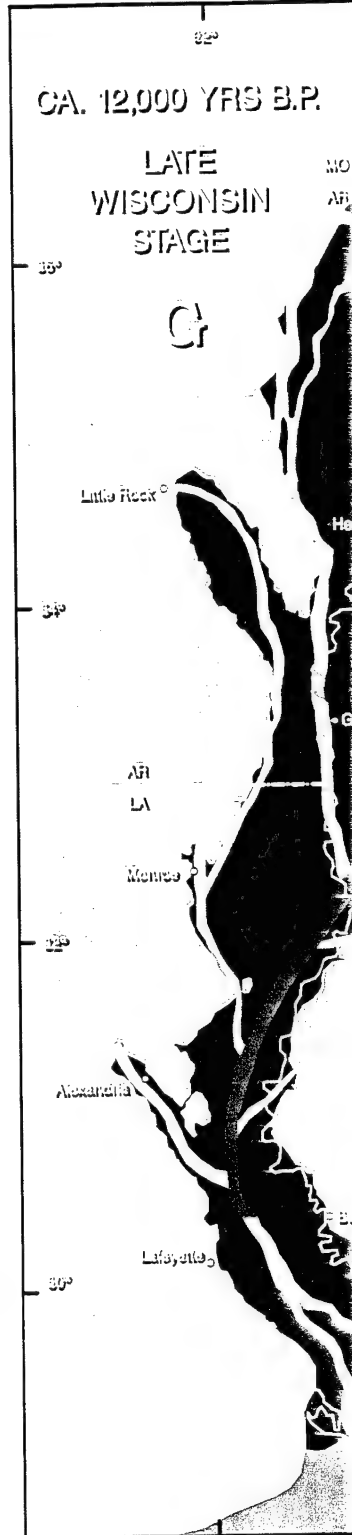
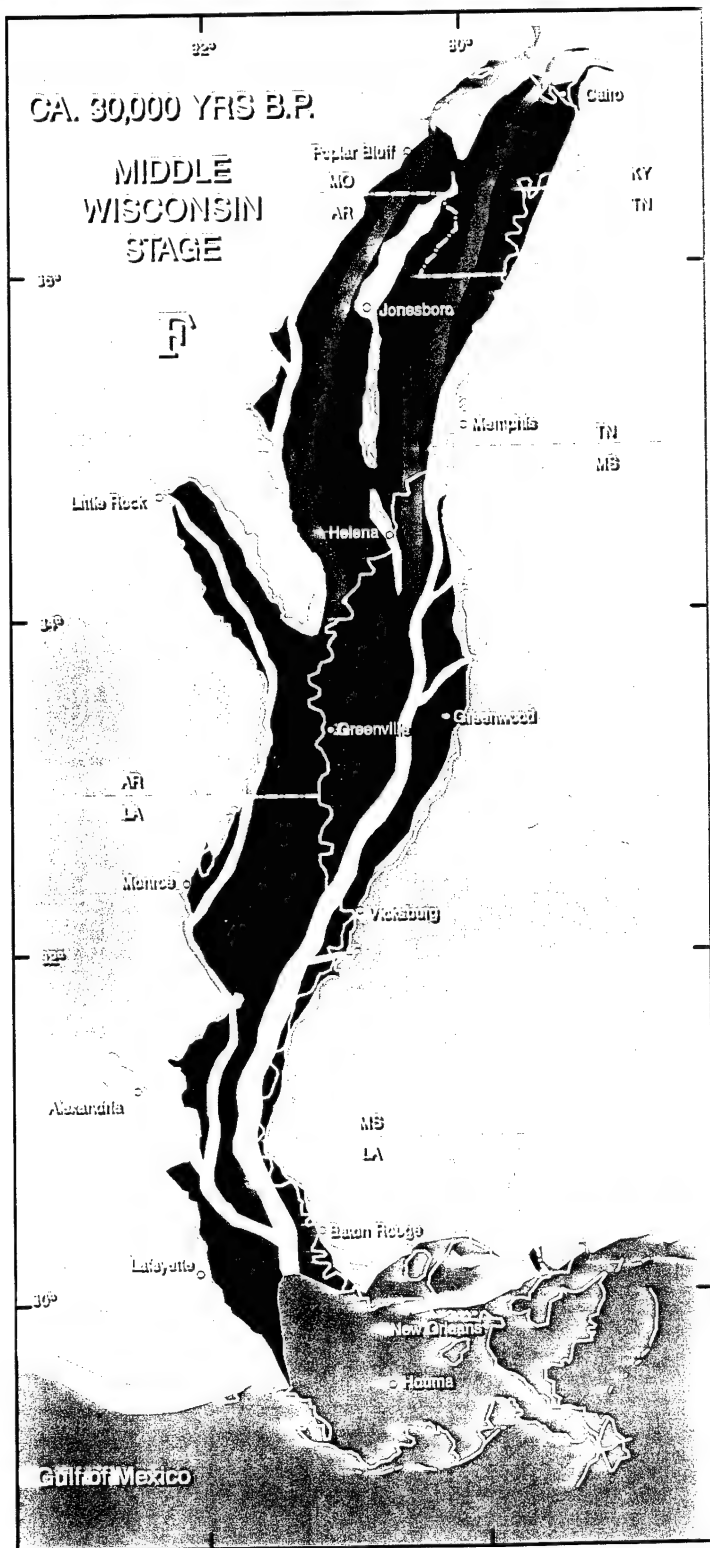


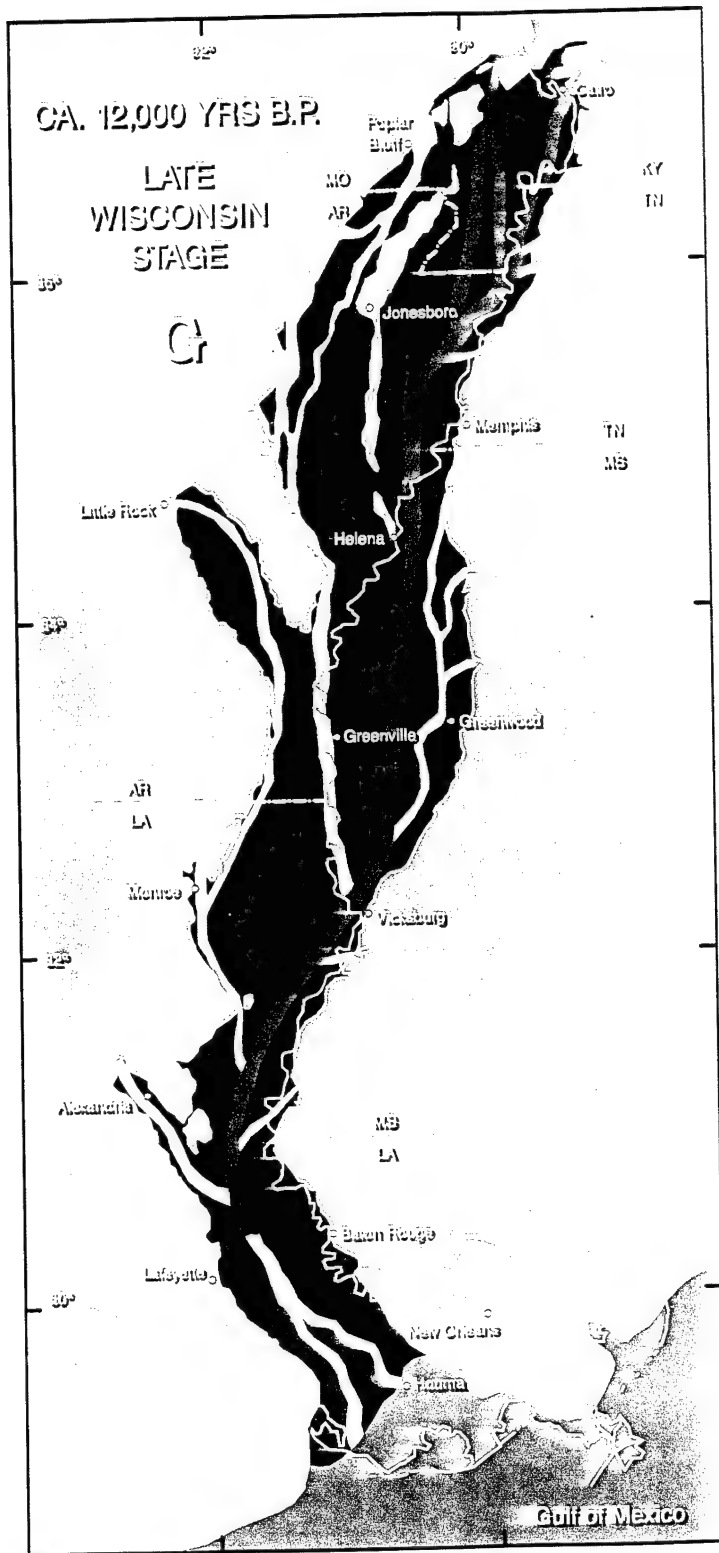
QUATE
OF THE
PALE
RECO
FOR

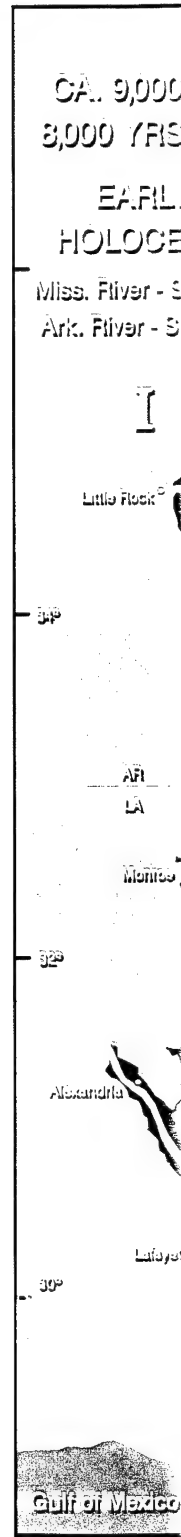
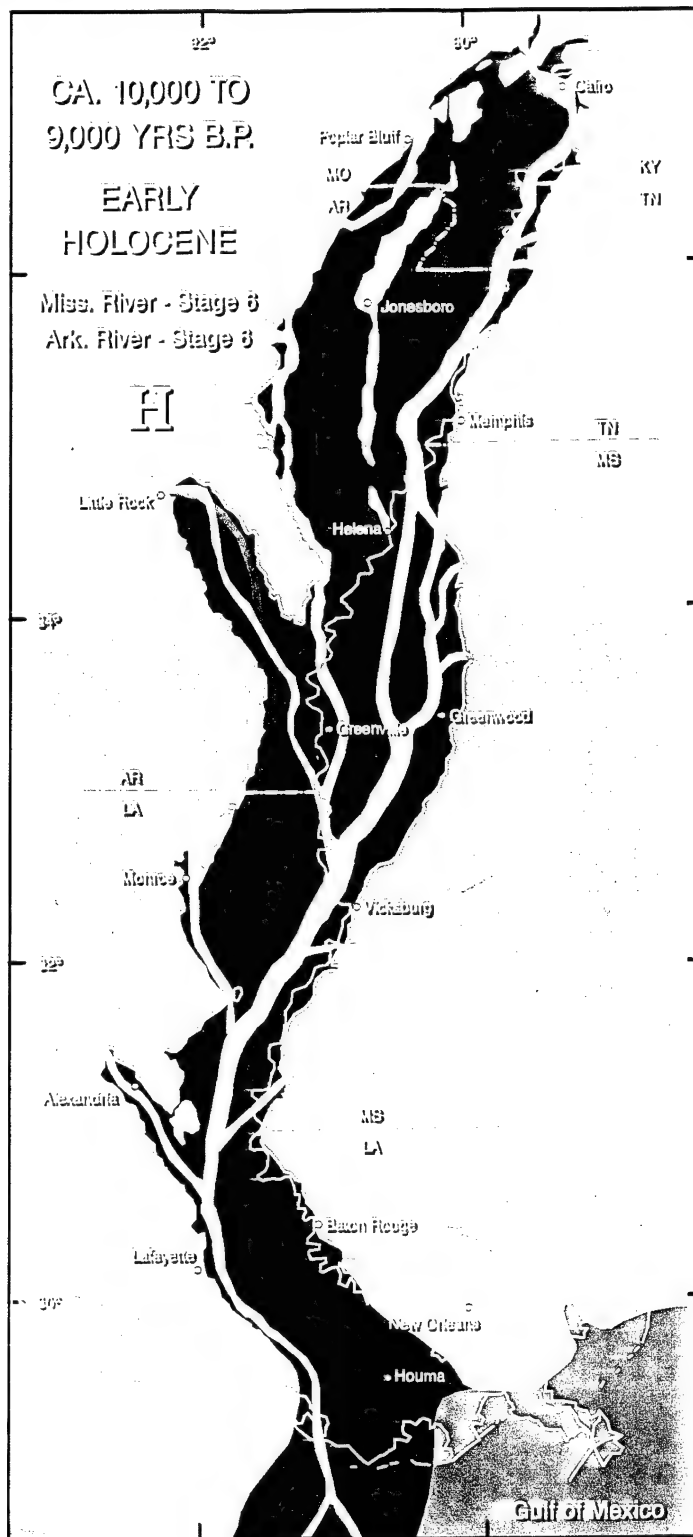


GEOMORPHOLOGY AND
QUATERNARY GEOLOGIC HISTORY
OF THE LOWER MISSISSIPPI VALLEY

PALEOGEOGRAPHIC RECONSTRUCTIONS FOR KEY PERIODS







CA. 9,000
8,000 YRS

EARLY
HOLOCENE

Miss. River - S
Ark. River - S

I

Little Rock

36°

AR
LA

Monroe

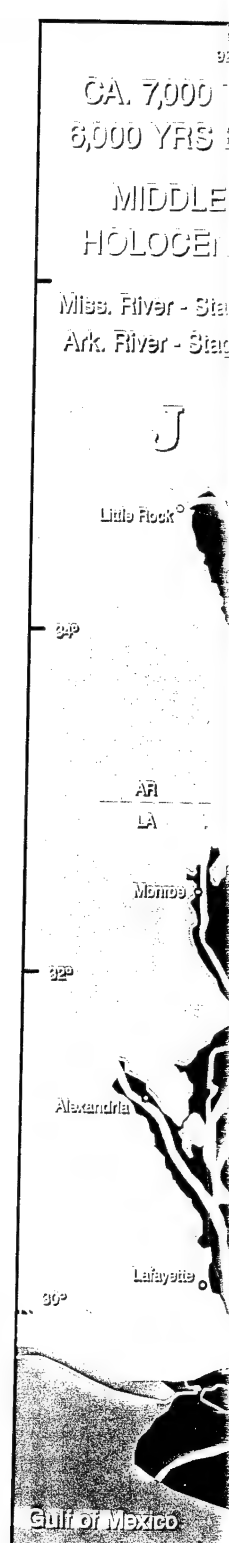
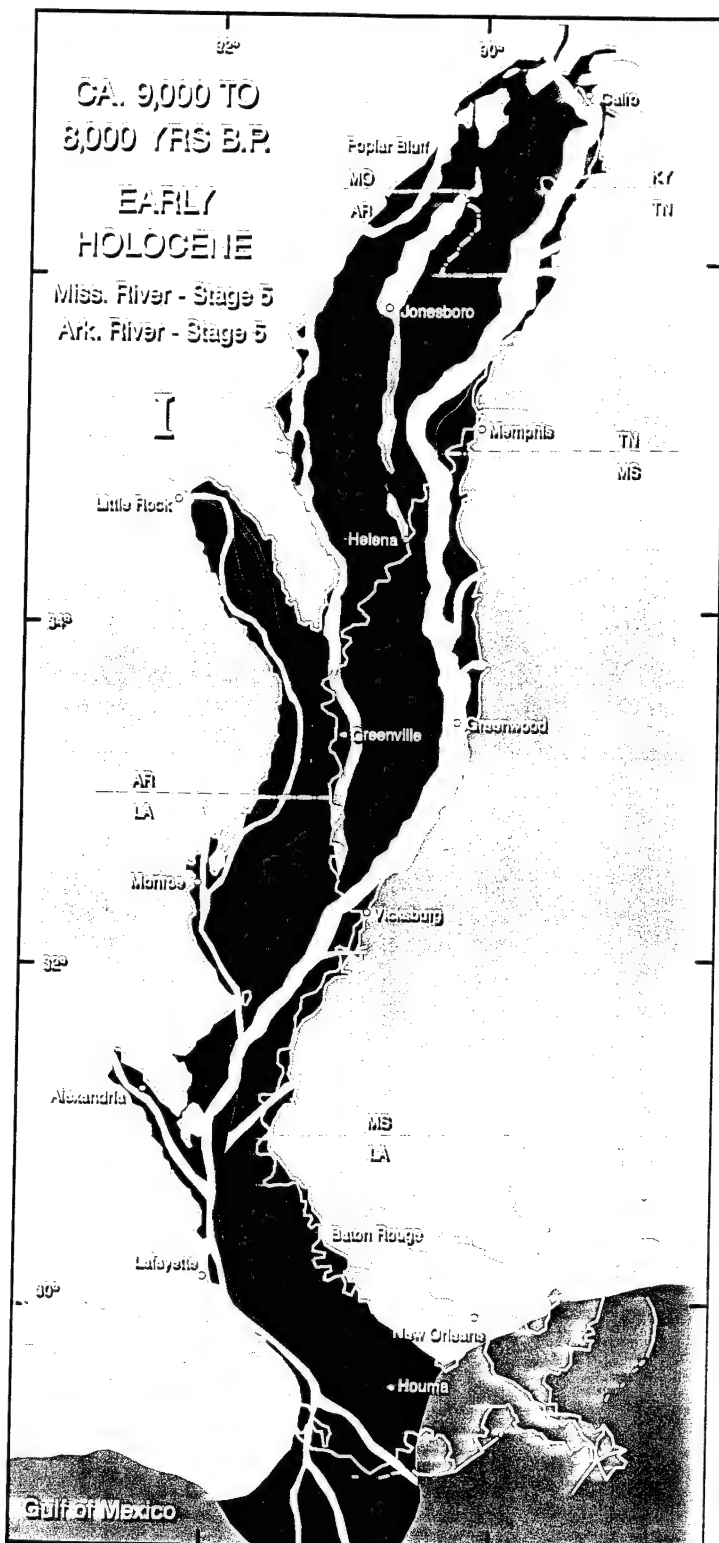
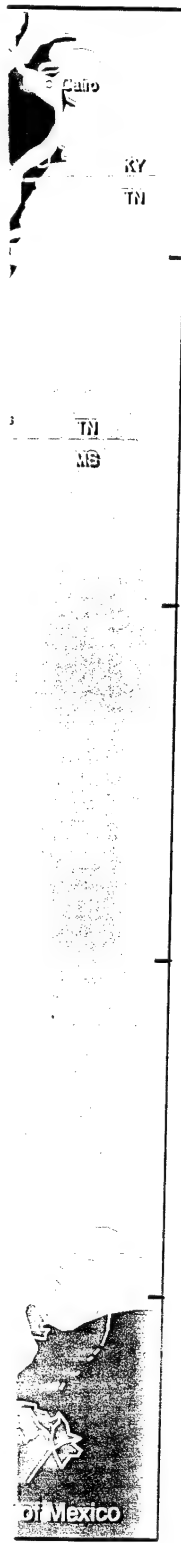
32°

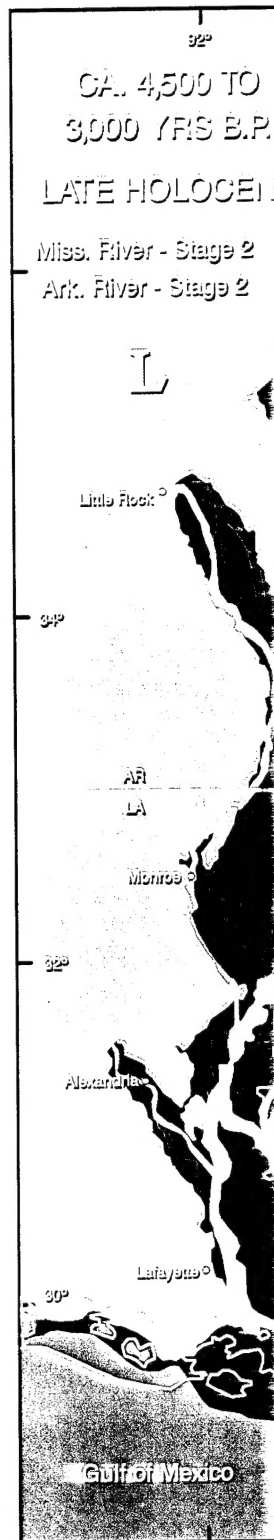
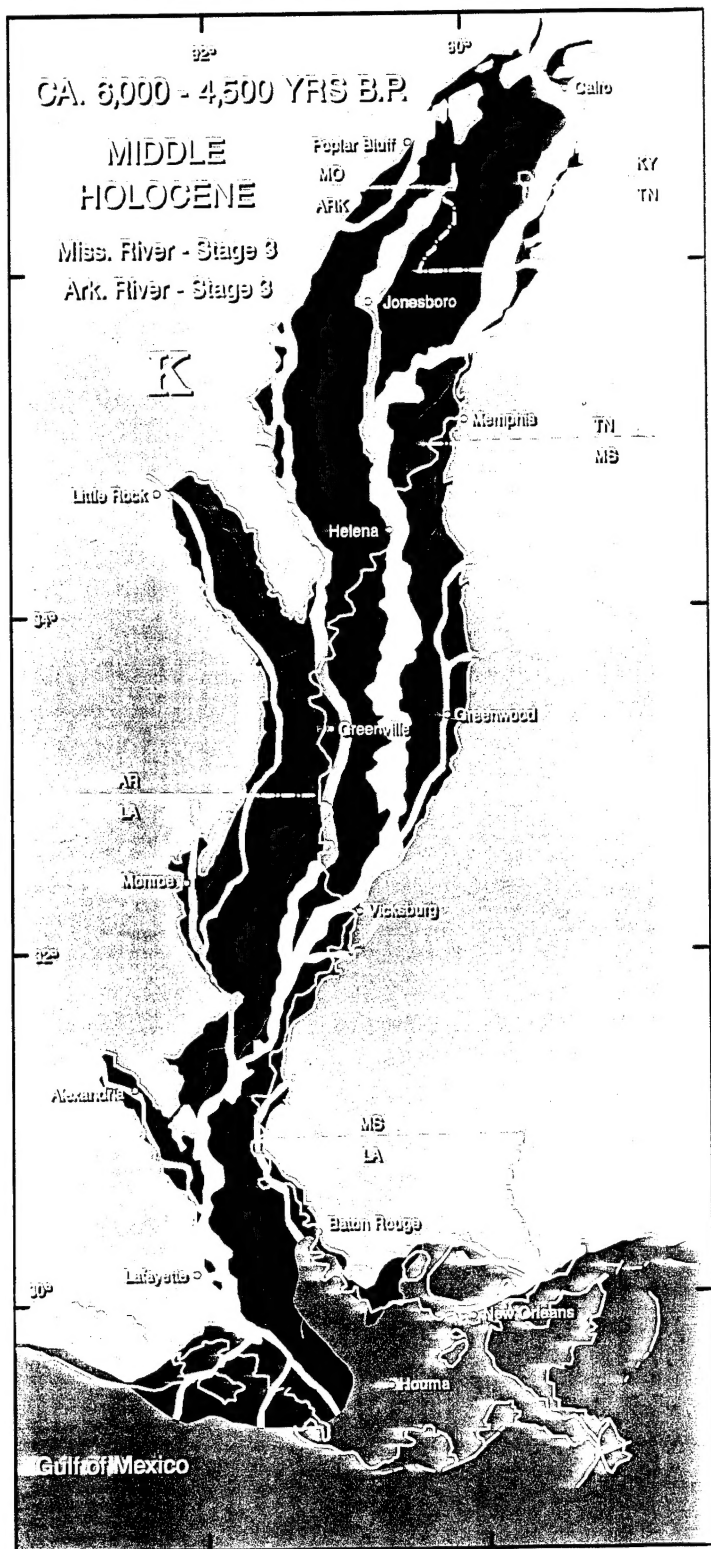
Alexandria

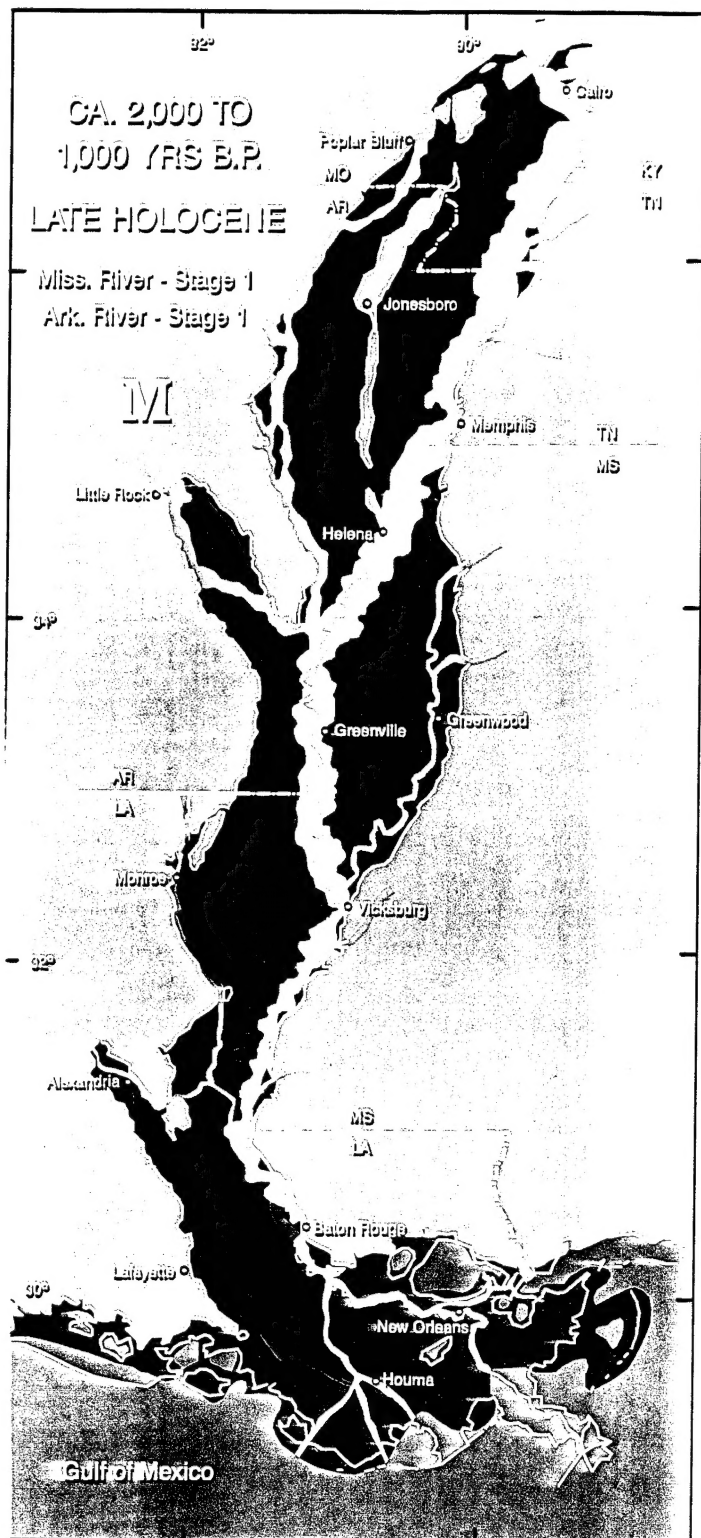
30°

Lafayette

Gulf of Mexico


















LE

LEGEND

-  Uplands
-  Alluvial Fan and Braid Belts
-  Active Valley Trains
-  Inactive Valley Trains
-  Active Mississippi River
Meander Belts & Tributaries
-  Inactive Meander Belts
-  Backswamp
-  Deltaic Plains and Estuaries
-  Undifferentiated Coastal Plain
-  Beaches / Barrier Islands
-  Floodplains & Active Meander
Belts of Small Streams

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